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THE
ENCYCLOPÆDIA
OF
Face and Form Reading

SHOWING PERSONAL TRAITS, BOTH PHYSICAL AND MENTAL

CONTAINING THE MASTER KEY TO THE STUDY OF CHARACTER READING IN THE FACE AND FORM AND ITS VALUE IN THE ART OF PERSUASION THROUGH KNOWLEDGE OF HUMAN NATURE

BY

M. O. STANTON

Author of "A Practical and Scientific Treatise on Physiognomy;" "Chart for the Delineation of Mental and Physiological Characteristics;" "Lectures on Physiognomy and Hygiene," etc.

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TO THE

LOVERS OF SCIENCE,

TO THE

EARNEST AND ENTHUSIASTIC SEARCHERS FOR TRUTH
THROUGHOUT THE WORLD,

THIS WORK

IS AFFECTIONATELY DEDICATED

AUTHOR'S PREFACE.

If one had asserted a few years ago that the time was near when men could converse with each other fifty miles apart, he would have been looked upon as a lunatic. Had he also remarked that quite as soon men could learn to read each other's characters by a glance at the face, he would have been regarded as an idiot. Yet, just as surely as one can converse at a great distance by the aid of the telephone, just *so surely can men read each other's faces* by rule and law settled and defined.

The art and science of physiognomy, as shown in "The Encyclopædia of Face and Form Reading," will put the reader in possession of this almost *superhuman power.*

The art of character-reading by the face is universal and instinctive. Every one gathers some knowledge of those he associates with by inspection of their facial features. Not only does he glean from this source, but he derives some impressions (and often correct ones) from the voice, the walk, the movements, and gestures; but as with all branches of knowledge one is more certain of the correctness of his observations if he possess some established rules to go by, so in the study of human character (the highest and most important of all studies) laws and rules cannot be dispensed with. This book gives these laws and rules and those who learn to apply them may be certain that the information gained from their application is *perfectly correct.*

WHAT MAKES SOME PEOPLE SUCCESSFUL?

In every community there are many talented *instinctive physiognomists;* these persons are the *successful* parents, teachers, lawyers, doctors, actors, authors, artists, and employés. These people are successful because they have this inherited gift of character-reading. How much *greater* would be their power did they have some well-established laws to guide them!

WHAT MAKES SOME PEOPLE UNSUCCESSFUL?

There are many others, unfortunately, who do not possess so great a degree of the knowledge of human nature as the former; how highly important for those is the knowledge which this book contains!

In these pages I have made a chart of the face, in which I have located fifty signs of character, in so plain and simple a manner that any one can easily learn it and put this knowledge into immediate practice.

I also show the meanings of the several forms of the body, of the hands, fingers, finger-nails; the lines, the wrinkles, the dimples; as well as the colors of the skin, hair, eyes, and eyebrows, and the meaning of the form, color, and quality of the beard and moustache.

A GREAT DISCOVERY.

Every internal organ has its sign in the face, which I have discovered and mapped out on a diagram, by the inspection of which one can readily know which of the visceral organs are weak and which are by nature strong. The heart, the liver, the lungs, the kidneys, the reproductive system, etc., have their certain sign or features by which the inherited condition of each organ may be known.

This knowledge puts a great power into the hands of parents, for, by knowing in advance which organs are weak and liable to disorder, they can prevent such calamity by the advice also given in this book.

"The Encyclopædia of Face and Form Reading" should be in the hands of every parent, teacher, minister, doctor, lawyer, artist, superintendent, banker, mechanic, and all persons who deal with human nature in their daily occupation.

The Teacher, by studying and applying its laws, can be most successful with her scholars; for by one glance at the face she can see which mental faculties are strongest, which weakest, and she can then apply the rule suited to each condition as given in these pages.

The Minister can gain a correct understanding of the moral, mental, and spiritual status of his parishioners, and may, by applying physiognomic laws to the reading of faces, become better acquainted with his charge in *one visit* than he could otherwise by years of acquaintance.

The Doctor will find in these pages most important ideas and theories which cannot be found in any medical book in the world. It is, indeed, a text-book which should lie on the table of every physician, and be daily consulted by him.

To the Artist, in every department of art, it will give new and original ideas, including the basic principles of form, color, time, and memory, with directions how to improve each. All of these theories are of immense importance to artists, aside from their physiognomic value.

The Lawyer will find in these pages a sure way to read the characters of judge, juror, client, and witness with instantaneous rapidity.

The Actor will be greatly benefited in his studies of character by knowing the meaning and the shape of each facial feature, as well as the shape of each bodily structure and their associated characteristic gesture, pose, and movement.

The Author can learn how to describe scientifically the physiognomic peculiarities of the forms, faces, and features of each one of his characters, so that they shall be true to nature. The physiognomic descriptions of the heroes and heroines of George Eliot are not surpassed by any in English literature, and they were scientifically correct,—that is, in accord with physiognomic law.

To Bankers the knowledge of physiognomy is invaluable. A banker once wrote me: "Had I possessed the knowledge contained in your book thirty years ago, it would have saved me thousands of dollars and much anxiety." All bankers should apply these rules to the faces of employés, and thus learn whom they can and cannot trust.

Superintendents of Schools, Manufactories, Asylums, Reformatories, and Business-Houses cannot afford to dispense with a knowledge of "Face and Form." Those who have the care of large numbers of youth will be greatly aided in the work of mental and moral developments of their charges by using the light of this science.

To the Unmarried the knowledge contained in this work is absolutely essential. Within its pages may be found such descriptions and analyses of character as will teach those intending marriage *how to choose* the one best adapted to produce harmony and beautiful and talented offspring.

"The Encyclopædia of Face and Form Reading" offers to every one a solution of many of life's most mysterious problems. Not only does it teach how to choose friends, business-partners, husbands, wives, and employés, but it gives directions how to develop every department of mind and all of the physical functions.

WILL IT PAY?

In short, the reading of this book *will pay* a greater interest than any other scientific book ever published on this or any other subject; because it treats of the most important subject to man,—viz., human nature.

Ladies and *Gentlemen* can make a most interesting *Parlor Entertainment* of this science by reading the faces of the company present. It is far more popular than palmistry, and can be made both profitable and attractive by those who care to master its laws.

This work is the result of a life-time of constant study, observation, and research. It contains very many original ideas and theories never before put forth. In short, it is the most advanced, practical, and complete work on physiognomy extant.

It is to be hoped that these ideas may lead to a correct knowledge of man, and that this may conduce to his welfare physically, morally, and intellectually.

THE AUTHOR.

PUBLISHERS' PREFACE.

THE purpose has been to combine into this encyclopædia all that is known to-day regarding "Face and Form Reading," clothing the scientific facts in such simple language as to make it adapted equally to the uses of the beginner and the adept. Even the compendious presentation of the subject has required a large volume; but, believing that the merit of the subject and the demand for a comprehensive and acknowledged authority upon it will insure a sale which, from the financial stand-point, will warrant the experiment, it is published at a price far below its intrinsic worth, and one which brings it within the reach of the most moderate purse. The encyclopædia answers the needs of its user not only while mastering the rudiments of the study, but also becomes more valuable as he becomes more proficient in its most intricate details. With the aid of the glossary, the index, and the most elaborate, suggestive index and outline of study, it is made available to all readers. It, however, gains greater value from the special articles prepared expressly for it by the distinguished gentlemen whose names appear in connection therewith. It is believed that no important science was ever before so simplified and arranged for convenient and easy assimilation as this. The person who uses and becomes familiar with this encyclopædia has spread before him the practical application of the principles of evolution, of anatomy and physiology, of mechanics, of physical and mental philosophy, and of many of the kindred sciences. The reader therefore gains an amount of general and practical knowledge which cannot fail to be an almost incalculable benefit all through life. In conclusion, for systematic study, it is urged that the general reader shall begin at Part II and return to Part I. Best of all, though, let him use the hints and suggestions of the outline of study for constant reference or casual consultation.

CONTENTS.

Author's Preface, ... v
Publisher's Preface, ... ix
List of Illustrations, ... xxvii
Aids to the Study, ... A-3
Introduction, ... 1

PART I.

THEORETICAL PHYSIOGNOMY.

CHAPTER I.

THE BASES OF PRINCIPLES OF SCIENTIFIC PHYSIOGNOMY.

Definition; Lavater's work; Theory of Practical and Scientific Physiognomy; What it teaches; How the discoveries were made; General laws and principles. The human face the index of all Nature; Three grand divisions—Chemical, Architectural, Mathematical. Mineral forms. The physical basis of Mind, . . 7

CHAPTER II.

THE BASIC PRINCIPLES OF FORM.

Rotatory motion the origin of Form; The movement of the earth has a direct bearing on the form and destiny of created beings. Relation between universal existence and mathematical law. Number the proper index to the volume of Being; The human countenance the index to these laws and principles. The law of Scalenism, or perversion; Disease a temporary return to abnormal or perverted types; Straightness of the bones indicates straightness of the mind. The normal factors of Form and Being in Nature, Art, and Science, ... 27

CHAPTER III.

THE FIVE ORGAN SYSTEMS WHICH CREATE FORM AND CHARACTER.

All is symbolic in Nature; Form the decisive factor in the interpretation of character. The five different organ systems. Form, character, and earliest appearance of cell life in the organization of animal tissue; The structure of organized bodies, . 59

The Vegetative System, ... 67
Characterization of the vegetative adult; The organ systems in the chemical or vegetative division; Faculties derived from the development of these organs.

THE THORACIC SYSTEM, ... 71
Facial signs for the internal organs; Diseases which assail the thoracic system.

THE MUSCULAR SYSTEM, ... 75
Arrangement of the muscles; Voluntary and involuntary; The varied expressions of the human face due to the muscles; The mechanical and artistic principles included in the action of the muscular system; Faculties that have signs located in the muscular division; Diseases which assail the muscular system; The dominant systems of man's organism control his capacities.

THE OSSEOUS OR BONY SYSTEM, ... 83
Classification of the bones; Firmness and integrity of character depend upon the bones; Composition of the bony structure; Kind of food necessary for good bones; Prominent men who have excelled in morality, endurance, and heroism; Bony people the best; Faculties derived from the bony system; Faculties in the architectural division; Diseases incident to the bony system; Remedy for an excessive development of bone. The points of character which depend upon the several organ systems of the body.

"HE BRAIN AND NERVOUS SYSTEM, ... 94
Size of the brain alone not a proof of great mental power; Form and congenital quality the most potent factors; Texture of the skin significant of mental quality; Physiology of the brain and nerves; Diseases which assail this system.

CHAPTER IV.

THE SUB-BASIC PRINCIPLES OF PHYSIOGNOMY.

FORM AND SIZE; A large head no indication of superior intelligence; The nose the best indication of power. Quality or mental power; Fine hair and skin to be considered first. Form; Persons of creative or constructive minds are round in form; The arch, the curve, the circle, the ovoid, the square, and straight line; Each illustrates different phases of character. Color; The mineral the original source; Pure air the best cosmetic; Color and heat synonymous, ... 101

THE LAW OF PROPORTION OR HARMONIOUS DEVELOPMENT, ... 131
Proportion a potent factor in determining character; One or more faculties excessively developed dominate and influence the action of other faculties; Secretiveness; Cautiousness; Acquisitiveness.

HEALTH, ... 137
The basis of all really useful character founded on health; Organic perfection and morality; Precocious children; Sensitive, nervous children; Drug medication; Pure air the best; Compensation; The established laws of compensation.

CHAPTER V.

RATIONALE OF PHYSICAL FUNCTIONS AND MENTAL FACULTIES, AND THEIR SIGNS IN THE FACE.

The brain not the sole seat of the mind. Hope directly related to the liver. The source of moral power.

THE KIDNEY SYSTEM, ... 158
Faculties dependent upon it; Analysis of Conscientiousness; Morality dependent on the action of the kidneys; Color-blindness; Analysis of Firmness.

FACULTIES DERIVED FROM THE DIFFERENT SYSTEMS.

THE INTESTINAL SYSTEM, ... 165, 185
Digestion or Alimentiveness; Mental power of the nerves of the digestive apparatus; Relation of the visceral organs to the brain. Friendship; Its selfish and unselfish action; Its connection with and dependence on other faculties: Analysis; The liver as a clearing-house of the entire organism.

THE GLANDULAR SYSTEM, ... 169
Benevolence; Value of the lips as indicators of pathological and morbid states of the body; Economy; The grade of intellectual development shows the kind of economy; Hospitality; Love of Home; Patriotism.

THE REPRODUCTIVE SYSTEM, ... 177
Amativeness, or love of the sexes; Its moral and physiological importance should be taught; Love of Young; Mirthfulness; Sanativeness; Pneumativeness.

THE LIVER, ... 182
Hope; Its dependence upon the liver.

THE NERVES OF THE SKIN, ... 190
Modesty; Analysis of the glandular system and olfactory ganglia; Cautiousness; The correlation of function with faculty.

THE OSSEOUS SYSTEM, ... 192
Veneration; Its connection with the stomach.

THE OSSEOUS AND MUSCULAR SYSTEMS, ... 194
Executiveness.

THE MUSCULAR SYSTEM, ... 195, 213
Self-will; Credenciveness; Uses of this faculty. Calculation; Music; All art is founded on a circle or sections of it; Analysis of Music; Language; Shown by a high quality of the muscular system; Musical qualities observed in language.

THE OSSEOUS AND NERVOUS SYSTEMS, ... 199
Observation.

THE MUSCULAR AND BRAIN SYSTEMS, ... 200
Memory of Events; A faculty of the five systems of functions; A great memory only is no indication of intellect or wisdom; Memory depends upon a healthy condition of the body; Weight; A high development of the muscular system a powerful ally to art; Locality; Large in those whose muscular system is supreme.

THE GLANDULAR AND ARTERIAL SYSTEMS, ... 206
Analysis of color.

THE BRAIN AND NERVE SYSTEM, ... 209, 233
Mental order; Physical order. Intuition; A true and distinct sense; Division of the nervous system into two parts; Description of the powers and action of these two departments of the brain system; Organs and functions from which the mental faculties derive their powers.

THE FIVE SUPERIOR SYSTEMS, ... 210
Time; Lacking where the vegetative system predominates; Time as well as Order one of the leading characteristics of the bony system.

THE BRAIN SYSTEM, ... 227
Comparison; Causality; Reason; Development of reasoning faculties among the masses; Children should be drilled in logical reasoning.

CHAPTER VI.

THEORIES OF THE MODE OF ACTION OF CERTAIN TRAITS.

Analysis of Amativeness; Should be judged by the adjoining facial signs. Analysis of Jealousy; The result of one of three causes. Analysis of Revenge. Analysis of Secretiveness; Intended by Nature to conceal the lack of some other faculty. Theory of Suspicion. Analysis of Anger, Will, and Temper; A dark man has the strongest temper; Its effect on the system; Self-will the basis of Anger and Temper; What true religion consists of. Analysis of Selfishness; Two distinct and opposite methods of action; Caused by an insufficient development of the glandular system. Self-conceit; Egotism. Analysis of Scorn and Contempt. Analysis of Enthusiasm; Faculty that leads to great efforts. Analysis of Laziness; Obstinacy; Contrariness; Physiognomy teaches that all defects can be remedied, to a large extent, ... 239

PART II.

PRACTICAL PHYSIOGNOMY.

CHAPTER I.

The Three Natural and Primitive Divisions of the Face Created by the Mouth, the Nose, and the Eyes.

The mouth; The centre of the most primitive system of function. The nose; Represents the mental powers. The eyes; Represent the muscular development of the entire body. Facial signs of the physiological organs and functions. Digestion, or Alimentiveness. Location of the signs for the visceral organs. Physiognomy properly a part of medical science. The glands. The reproductive system. Lactation. The kidneys; Conscientiousness dependent on this system. Method of localizing the higher developments of the body; The lungs and heart; The Liver; The stomach. The muscular or motive system; The eye; Motion; Vision; Hearing. The osseous system; Denoted by the bones of the eyebrow. The brain and nerve system; Training the feeble-minded and imbecile; The sense of touch, . . 273

Mental Signs of Character in the Face, ... 287

Five practical subdivisions; The width and length of the face; The nose high and broad the entire length a good sign; The lower part of the forehead and eyebrows an important part to consider; Great size of the forehead no criterion of mentality; Local signs for the mental faculties; Summary to the five practical subdivisions of the face.

CHAPTER II.

Location and Description of Signs of Character in the Face.

Fifty separate and distinct faculties described; The adaptability of the human mind; Man does not possess a greater number of mental faculties than woman; Gestures significant in disclosing character; The face an exact register of all mental faculties and bodily functions and conditions, ... 297

The Faculty of Conscientiousness, ... 302

Definition; An excess and deficiency of this faculty; Facial and bodily signs; The color of the face an indication of the general integrity of a person; Bodily signs of Conscientiousness; Description of Conscientiousness; Conscientiousness large where the bony system predominates.

The Faculty of Firmness, ... 312

Definition; What an excess or deficiency causes; Facial and bodily signs; Description of Firmness; A receding chin an indication of weakness; The signs for Firmness observed all over the individual.

THE FACULTY OF ECONOMY, ... 318

Definition; Facial and bodily signs; Description of Economy; A normal degree of Economy indicates a normal or balanced condition of mind; Acquisitiveness not Economy.

LOVE OF HOME, ... 324

Definition; Facial and bodily signs; Description of Love of Home; This trait should be cultivated in children.

PATRIOTISM, ... 329

Facial and bodily signs; Definition of Patriotism.

BENEVOLENCE, ... 335

Definition; Facial and bodily signs; Description of Benevolence; Faculties in combination modify and influence this trait; Difference between benevolence and friendship.

BIBATIVENESS, ... 339

Definition; What an excess or deficiency of this faculty indicates; Facial and bodily signs; Description of Bibativeness; Situation of this sign most suggestive; Indicates the functional purity of the entire organism.

ALIMENTIVENESS, OR DIGESTION, ... 348

Definition; Facial and bodily signs; Description of Alimentiveness; The mouth by its shape and color gives the general tone or grade of the individual.

AMATIVENESS, ... 355

Definition; Facial and bodily signs; Description of Amativeness; Training in sexual morality; Works that all young people should read; Signs for emotional traits found in the glands and muscles, not the bones.

LOVE OF YOUNG, ... 367

Definition; What an excess or deficiency of this faculty may lead to; Facial and bodily signs; Description of Love of Young; Should be balanced by reason and justice; Does not necessarily impart a tone of kindness to the individual.

MIRTHFULNESS, ... 373

Definition; Facial and bodily signs; Description; Mental uses of Mirthfulness.

APPROBATIVENESS, ... 378

Definition; What an excess or deficiency indicates; Facial and bodily signs; Description of Approbativeness; Essential to the success of some people.

FRIENDSHIP, ... 385

Definition; Facial and bodily signs; Description of Friendship; Selfish and unselfish friendship; Friendship with fine inherited quality shows a strong, magnetic nature; Diverse manifestations of Friendship.

HOSPITALITY, ... 392
Definition; Facial and bodily signs; Description of Hospitality.

PNEUMATIVENESS, ... 397
Definition; What an excess or deficiency of this faculty may lead to; Facial and bodily signs; Description of Pneumativeness; The most essential factor is pure air; Manifestations of Pneumativeness; Acuteness of scent; Great energy of mind and body.

GLANDULAR AND ARTERIAL SYSTEM.

COLOR, ... 408
Definition; Facial and bodily signs; Description of Color; A high cultivation of the color-sense a religious duty; Aids toward cultivating this sense; What the color of the face reveals; Color-blindness.

SANATIVENESS, ... 427
Definition; What a deficiency of this faculty leads to; Facial and bodily signs; Description of Sanativeness; One of the normal and primitive functions; Magnetic healers; The faculty of Sanativeness should be large in physicians; Longevity of life; Facial signs that a good surgeon or physician should possess.

SELF-ESTEEM, ... 436
Definition; Facial and bodily signs; Description of Self-esteem; Its relation to other faculties; Self-assertion and Positiveness; The combination of Self-esteem with other faculties; What a short upper lip denotes.

MODESTY, ... 445
Definition; Facial and bodily signs; Description of Modesty; Blushing; Downcast looks not an indication of Modesty; Shyness sometimes spelt "slyness."

FORCE, ... 454
Definition; What an excess or deficiency of this faculty leads to; Facial and bodily signs; Description of Force; Possessors of round muscles are the most vigorous; Children should be thoroughly trained in gymnastics; Force gives to the voice clearness and resonance; Color of great service in determining what degree of force will be exhibited.

RESISTANCE, ... 463
Definition; Facial and bodily signs; Description of Resistance; Sometimes takes the form of combativeness or contrariness; Mental resistance.

SECRETIVENESS, ... 469
Definition; What an excess or deficiency of this faculty leads to; Facial and bodily signs; Description of Secretiveness; Physiological peculiarities of secretive men; What deficiency of faculties Secretiveness indicates; This faculty large in priests and physicians; Characteristics of Secretiveness.

CAUTIOUSNESS, ... 479
Definition; What an excess or deficiency of this faculty leads to; Facial and bodily signs; Description of Cautiousness; The nose the principal sign; Its connection with other faculties.

HOPE, ... 486
Definition; What an excess or deficiency of this faculty leads to; Facial and bodily signs; Description of Hope; Hygienic remarks; Its connection with and indication of the general condition of the internal organs; Temporary disorders of the liver; A clear, fresh-colored complexion.

ANALYSIS, ... 493
Definition; What a deficiency of this faculty indicates; Facial and bodily signs; Description of Analysis; The capacity for analyzing; Large in all talented persons; Of great help in the investigation of human character; Must be judged in combination with other faculties.

MENTAL IMITATION, ... 499
Definition; What a deficiency of this faculty indicates; Facial and bodily signs; Description of Mental Imitation; What is the basis of supply of Mental Imitation; All features subject to the modifying action of the law of Quality; Signs for literary and artistic faculties grouped about the tip of the nose; Nosology; Normal uses of Imitation.

SUBLIMITY, ... 506
Definition; What an excess or deficiency of this faculty leads to; Facial and bodily signs; Description of the faculty of Sublimity; Mental phase of Sublimity; This faculty an attribute of old and perfected races; Largely observed in the faces of the Hebrews; Prominent Hebrews; Sublimity in combination with other faculties.

IDEALITY, ... 514
Definition; What an excess or deficiency of this faculty indicates; Facial and bodily signs; Description of Ideality; Physiological base of Ideality; Great diversities of degree of this faculty exhibited; Natural allies and assistants of Ideality; The dimpled chin.

HUMAN NATURE, ... 525
Definition; What an excess or deficiency of this faculty indicates; Facial and bodily signs; Description of Human Nature; The beneficial uses of the faculty of Human Nature.

ACQUISITIVENESS, ... 534
Definition; Facial and bodily signs; Description of Acquisitiveness; Should be judged in combination with other faculties; The outline of each feature and limb reveals the entire man; Acquisitiveness useful in connection with literary pursuits.

CONSTRUCTIVENESS, ... 544

Definition; What a deficiency of this faculty indicates; Facial and bodily signs; Description of Constructiveness; Physiological and anatomical description of the base of each separate and mental manifestation; A predominance of the muscular system necessary in all artistic pursuits; Analyze the combinations of systems of functions observed in each individual; With a knowledge of physiognomy a knave cannot be mistaken for an honest man; Combination of Constructiveness with other faculties.

VENERATION, ... 553

Definition; What an excess or deficiency of this faculty indicates; Facial and bodily signs; Description of Veneration; Large where the bony system predominates; Exhibited in varying degrees and in diverse ways; The "scooped" or pug nose; The uses of Veneration; Natural religion.

EXECUTIVENESS, ... 561

Definition; Facial and bodily signs; Description of Executiveness; Its relationship to the stomach; All power not in the brain; Different forms of Executiveness; A vigorous thoracic system a great adjunct.

SELF-WILL, ... 569

Definition; What an excess or deficiency of this faculty indicates; Facial and bodily signs; Description of Self-will; This faculty sometimes necessary to make other traits conspicuous; Secondary signs of Self-will; Distinction between Self-will and Firmness; Self-will, where deficient, can be cultivated by gymnastic exercises.

CREDENCIVENESS, ... 578

Definition; What an excess or deficiency of this faculty causes; Facial and bodily signs; Description of Credenciveness; This faculty universal; Its uses in the artistic line; The best use of Credenciveness; Rationale of Credenciveness.

PRESCIENCE, ... 588

Definition; Facial and bodily signs; Description of Prescience; Its action best observed in aged persons; The possession of the Prescient faculty gives a love and desire for a future life; Manifestations of Prescience different in each individual.

CHAPTER II.

(Continued.)

THE PRACTICAL DIVISION OF THE FACE.

A consideration of the practical or mechanical group of faculties; Bones of the skull and face changed by a regular law of development, ... 601

FORM, ... 602
Definition; What a deficiency in Form indicates; Facial and bodily signs; Description of Form; The basis of all trades and professions; The art of spelling depends upon the development of this faculty; Chess-players large in form and size.

SIZE, ... 609
Definition; What a deficiency in size indicates; Facial and bodily signs; Description of Size; Impossibility of judging the shape and size of the brain by an external examination; The uses of this faculty in conjunction with others.

OBSERVATION, ... 617
Definition; What a deficiency of this faculty indicates; Facial and bodily signs; Description of Observation; Persons with excessive Credenciveness never develop this sign; Attention must be paid to the peculiar expression of the eye; Animal observation.

MEMORY OF EVENTS, ... 624
Definition; Facial and bodily signs; Description of Memory; Analysis of the Memory; How to strengthen this faculty; Different kinds of Memory; Memory is not wisdom; Disorders that this faculty is subject to.

LOCALITY, ... 635
Definition; What a deficiency of this faculty indicates; Facial and bodily signs; General and diffused through the muscular system; Description of Locality; Surgeons and anatomists require a fine development of this faculty; How children can be taught to develop it; The study of physiognomy one of great interest to children.

THE MUSCULAR SYSTEM—WEIGHT, ... 643
Definition; What an excess or deficiency of this faculty indicates; Facial and bodily signs; Description of Weight; Its uses in every-day life.

LANGUAGE, ... 652
Definition; Facial and bodily signs; Description of Language; A combination of several faculties; Color has a controlling influence upon Language; Analysis of this faculty; How the degrees of force of Language are revealed.

MUSIC, ... 665
Definition; Facial and bodily signs; Description of Music; Round, muscular persons make the best musicians; Curves one

of the elements of sound; The eye and ear; Connection of this faculty with Amativeness; The entire system must be built upon the curved or arched pattern; Round form denotes harmoniously-constructed organism; Childish capriciousness of great singers; Other faculties necessary to make the perfect musical structure.

THE MATHEMATICAL DIVISION OF THE FACE.

Faculties which assist the mathematical computation and demonstration found in the upper division of the face, ... 680

TIME, ... 681

Definition; Comprised in the five systems of functions; What an excess or deficiency of this faculty indicates; Facial and bodily signs; Description of Time; Kinds of time inherent in the thoracic system; In the osseous system; In the muscular system; In the vegetative system; Elements of Time; Its connection and operation with other faculties; Motion the basis of Time.

ORDER, MENTAL AND PHYSICAL, ... 695

Definition of Mental Order; Facial and bodily signs; Description of Mental Order; Physical Order; Squareness of the bones an indication; Different kinds of Order; A necessary and natural ally to other faculties; Exhibited by animals and insects.

CALCULATION, ... 705

Definition; Facial and bodily signs; Description of Calculation; The base of everything mathematical or numerical; Persons of large and sound reasoning powers possess sound and strong bodies; Its cultivation in children.

CAUSALITY, ... 715

Definition; What an excess or deficiency of this faculty leads to; Facial and bodily signs; Description of Causality; Mere questioning not true investigation; The value of Causality governed by the surrounding faculties.

COMPARISON, ... 726

Definition; What a deficiency of this faculty indicates; Facial and bodily signs; Description of Comparison; The natural ally and companion of certain faculties; Inductive reasoning.

INTUITION, ... 737

Definition; How this faculty can be cultivated; Facial and bodily signs; Description of Intuition; A separate faculty from human nature; Cause and base of Intuition; Women as a class possess a more general endowment of this trait than men; The investigation of human nature greatly aided by Intuition; Children, as a rule, possess a high development of this faculty; Intuitional genius of animals.

CHAPTER III.

THE HUMAN FACE IN OUTLINE, MOTION, FEATURE, EXPRESSION, AND COLOR.

Every form in Nature reveals its own history; The muscular mechanism of the face; The osseous formation; The nervous distribution of the same; The glandular formation of the face; The outline exhibited by each separate being and epitome of the entire character; The superior power of the face as a revealer of character to that of the skull; Geometrical forms of the face; Five general outlines of the face, caused by shape and degree of activity of the internal organs, ... 749

MOTIONS AND FORM, ... 757

Motion also reveals the mind of the individual; Natural gestures strongly indicative of character; Congenital or professional criminals use very few gestures; Movements of the mouth; Differences in the form of the internal organs; Basic elements of form as exhibited in the features.

THE CHIN, ... 769

The signs of the chin; Three general forms of the chin—the globose, the oval, and the square; The three positions of the chin; Forms of the centre of the chin; Three general classes of character; Dimpled chins; Forms of the chin; The effeminate chin.

THE JAW, ... 791

Forms of the jaw; The upper and the lower; The embryotic lower; The infantile jaw; A dyspeptic jaw; The weak, or negative; The consumptive jaw; The crafty and witty jaw; The curved, or artistic; The dramatic jaw; The square jaw—moral, mechanical, scientific; The angular, or contrary jaw; Prognathous jaw; Prognathism of the upper jaw.

THE LIPS, ... 795

The signs in the lips; The movements of the mouth, lips, and adjacent parts highly significant of character; The lower lip; The embryonic lower lip; The infantile lower; The gustatory lip; The sociable lip; The linguistic lower lip; The witty lower lip; The benevolent or sympathetic lower lip; The secretive lower lip; The criminal lower lip; Crookedness of the muscles indicates crookedness of the language; The undeveloped lower lip; The stupid lower lip; The destructive lower; Visions of the lower lip; The embryonic upper; The undeveloped upper; The philoprogenitive upper lip; The modest upper; The imitative upper lip; The secretive upper lip; The self-estimative upper lip; The amative upper; The normal upper lip; The mirthful upper lip.

THE VOICE, ... 825

Intensity of motion; Analysis of the voice; Reveals the dominant system or systems of the organism; Peculiarities of voice of those in whom the thoracic system is dominant—the vegetative system, the muscular system; The clearer the voice, the clearer the mind; Lisping tones betray a want of balanced judgment; Impediment to perfect articulation; Evolution of language in connection with evolution of the voice; Harsh voices; Unconscious imitation; Elocutionary exercises; A man capable of emitting sound independent of the organs of speech; Comparison of the tones of the different races of civilization.

THE MOUTH, ... 837

The line of closure; Analyzing a mouth; The graminivorous mouth; The singing mouth; The artistic mouth; The conversational and oratorical mouth; The meditative mouth; The common-sense mouth; The orderly mouth; The economical mouth; The destructive or carnivorous mouth; Criminal mouths.

THE CHEEKS, ... 848

General remarks; The two divisions of the cheeks; The embryonic; The globose, or infantile; The gluttonous; Oval or artistic cheek; The rectangular or conscientious cheek; The dimpled or beautiful cheek; The concave, or consumptive; The dyspeptic; The criminal; Normal upper cheek; Abnormal form of cheeks.

THE NOSE, ... 866

The evolution of the nose; The physiology of the nose; The anatomical formation of the nose; Table of elements to be considered in relation to the nose; General remarks; Lower division—artistic and literary; Middle division—constructive; Upper division—executive; The three general outlines of the nostrils; The form or outline of the nose; The three basilar forms of the nose; The concave or immature nose of the adult, negative character; Embryotic type; Infantoid type; Idiotic type; Snub type; Pup type; Retroussèe type; Singing type; Straight class—passive character; Poetic type; Artistic type; Literary type; Critic's type; Philosophic type; Dramatic type; Constructive type; Athletic types; Convex class—osseous system dominant—positive character; Argumentative type; Commercial type; Melancholy type; Dishonest type; Scientific type; Mechanic type; Abnormal type.

THE EYE, ... 936

The forms of the eye; The three general forms of the eye; Artistic type; Reflective type; The agreeable eye; The linguistic eye; Politic eye; Untruthful eye; Upward oblique; Double obliquity; Observing eyelid; Licentious and unprincipled form; Secretive and acquisitive eye; Truthful eye; Normal eye; Abnormal type; The size of the eye; Expression of the eye; Artistic expression; Observant expression; Magnetic expression; Brutal expression; Gluttonous expression; Shallow and passionate expression; Nictitating fold.

THE EYELASHES, ... 969

The interciliary space; Artistic interciliary space; Superstitious type.

THE EYEBROWS, ... 974

Normal position of the inner termini; The conceited brow; The observing eyebrow; The credulous eyebrow; Position of the middle of the brows—the impractical brow; The artistic brow; Position of the outer termini—the arithmetical brow; The deceptive eyebrow; The æsthetic eyebrow; The inventive eyebrow; The vital eyebrow; The delicate eyebrow; Movements of the brows; The colors of the eyebrow.

THE FOREHEAD, ... 987

The practical forehead; The projecting forehead; Infantile forehead; The mechanical forehead; The artistic forehead; The scientific and mechanical forehead.

THE HEAD, ... 993

THE HAIR, ... 997

The evolution of the hair; The quality or texture of the hair; The quantity of the hair; The various colors of the hair; The remedy for gray hair; Various sorts of curly hair; Straight hair; Cause and cure for baldness; The beard; The texture of the beard.

THE EAR, ... 1015

The significations of the forms of the ear; The position of the ear; Defective positions; The external and internal ear; The three divisions of the ear; The color of the ear; The forms of the ear; The musical ear; The unmusical ear; The oratorical ear; The commercial ear; Generous *versus* stingy ear; The courageous ear; The timid ear; The linguistic ear; The refined ear; The unrefined ear; The abnormal ear.

THE HUMAN FACE, ... 1032

The lines of the face; The wrinkles of the face; The wrinkles in the chin; The wrinkles in the lower cheeks; Wrinkles of the lower lip; Wrinkles about the eyes; Mirthful wrinkles at the outer corners of the eyes; Wrinkles under the eyes; Wrinkles on the forehead; Wrinkles of the neck; General wrinkles.

DIMPLES, ... 1042

Signification of dimples; Dimples in the chin; Dimples in the cheeks.

THE TEETH, ... 1045

The physiognomical significance of the teeth; Animal types of the teeth.

THE GUMS, ... 1050

THE TONGUE, ... 1052

PHYSIOGNOMY OF SMILES AND LAUGHTER, ... 1054

THE NECK, ... 1057

The wilful neck.

THE HAND, ... 106

The construction and divisions of the hand; The position of the hand; The lines of the hand; The vegetative or infantoid hand; Muscular class of hands; Muscular class No. II (round muscles); The osseous class (square bones); Brain class; Mixed hands; Beautiful hands; Texture of the hand; The color of the hand.

THE NAILS, ... 1082

The color of the nails.

CHAPTER IV.

SIGNS OF HEALTH AND DISEASE, STRENGTH AND WEAKNESS, BEAUTY AND UGLINESS, IN THE HUMAN FACE AND BODY.

Signs of strength; Compression of the female waist; Signs of beauty in woman; The facial features as revelators of strength and beauty; The nose, the chin, cheeks, and lips; The complexion; Use of stimulants; Disease of the eyes; The forehead; Bilateral symmetry of the face; The thorough-bred; What are the indications of a thorough-bred person; How to reduce the size without losing strength, ... 1085

CHAPTER V.

CHOICE OF VOCATIONS.

THE COMBINATIONS OF FACULTIES FOR TRADES AND PROFESSIONS, . 1111

The method to pursue in reading character; The combination of systems and faculties suitable for a hotel or boarding house keeper; The combination of systems and faculties required for a mechanic; The combination of systems and faculties required for a printer; The systems and faculties essential to a dressmaker or designer of women's fashions; The systems and faculties required by a cook; The combination of systems and faculties required for a farmer; The combination of systems and faculties required for an engineer; The system and faculties essential to merchants; The systems and faculties required for a speculator; The systems and faculties essential for a painter; Systems and faculties essential to a player; The faculties necessary to a tragedian; The systems and faculties essential to a comedian; The systems and faculties essential to a society belle; The systems and faculties necessary for an opera-singer; The systems and faculties requisite for a musical composer; The systems and faculties essential to a sculptor; The systems and faculties required by a physician; The systems and faculties required for a surgeon; Other classes of surgeons; The systems and faculties essential to the orator; The electric class of orators; Magnetic class of orators; The systems and faculties essential to a clergyman; The systems and faculties essential to a lawyer; The systems and faculties essential to an inventor; The systems and faculties needed by a commander; The systems and faculties necessary to a scientist; The systems and faculties required by a civil engineer; The systems and faculties required by a banker; The systems and faculties required by a philanthropist; The systems and faculties necessary to a philologist; The systems and faculties essential to an editor; The systems and faculties required by a writer of fiction; The systems and faculties required by a statesman.

CONCLUSION, ... 1182

APPENDIX TO PART I.

ORIGIN AND EVOLUTION OF THE VISCERAL ORGANS AND FACIAL FEATURES, 1187

SUMMARY OF THE ORIGIN AND EVOLUTION OF THE VISCERAL ORGANS AND FACIAL FEATURES, ... 1205

TABULATED SUMMARY OF THE ORIGIN AND EVOLUTION OF THE ORGANS, 1209

BIBLIOGRAPHY, ... 1211

GLOSSARY, ... 1213

INDEX, ... 1217

LIST OF ILLUSTRATIONS.

Fig. 1. The Grand Divisions of the Face, ... 15
" 2. Mineral Forms, ... 19
" 3. A Non-Nucleated Cell, the Protamœba Primitiva, ... 63
" 4. Native Australians, ... 65
" 5. A Polyp, ... 66
" 6. Vegetative Infant, ... 67
" 7. Vegetative Man, ... 67
" 8. Thomas H. Benton, ... 72
" 9. Herr Fleischman, ... 75
" 10. Andrew Jackson, ... 84
" 11. Herbert Spencer, ... 94
" 12. The Natural and Primitive Divisions of the Face, ... 273
" 13. The Practical Subdivisions of the Face, ... 275
" 14. Location of the Signs for the Visceral Organs, ... 277
" 15. Local Signs for the Mental Faculties, ... 288
" 16. George Washington, ... 304
" 17. Charlotte Cushman, ... 305
" 18. Anna Dickinson, ... 314
" 19. George Washington (profile), ... 315
" 20. Lucretia B. Mott, ... 318
" 21. Benjamin Franklin, ... 319
" 22. Mad. Octavia Walton Le Vert, ... 326
" 23. James Fenimore Cooper, ... 327
" 24. Mad. Marie Jeanne Phillipon Roland, ... 330
" 25. Thomas Starr King, ... 331
" 26. Lady Angela Georgina Burdett-Coutts Bartlett-Coutts, ... 336
" 27. Henry Bergh, ... 337
" 28. Alexandre Dumas, ... 340
" 29. Monsieur D'Aubray, ... 341
" 30. Sir John Franklin, ... 350
" 31. A. A. Low, ... 351
" 32. The Pundita Ramabai, ... 356
" 33. Anthony Raphael Mengs, ... 357
" 34. The Princess Alexandra, of Wales, ... 368
" 35. William Pitt, Earl of Chatham, ... 369
" 36. Eliza Cook, ... 374
" 37. David G. Farragut, ... 375
" 38. Miss Otis, ... 380
" 39. Johann Christoph von Glück, ... 381
" 40. M. Louis Adolph Thiers, ... 386
" 41. Sir John Lubbock, ... 387
" 42. Martha Dandridge Custis Washington, ... 394
" 43. George William Childs, ... 395
" 44. Miss Florence Nightingale, ... 398
" 45. Chauncey M. Depew, ... 399
" 46. Maria Angelica Kauffmann, ... 410

Fig. 47. Hans Holbein, ... 411
" 48. Dr. Nellie Beighle, ... 428
" 49. Pieatro Andrea Mattioli, ... 429
" 50. "Mother" Byckerdyke, ... 432
" 51. Clemence S. L'Ozier, ... 433
" 52. Thomas Jefferson, ... 438
" 53. Henry Ward Beecher, ... 439
" 54. Belva A. Lockwood, ... 446
" 55. John William Draper, ... 447
" 56. John L. Sullivan, ... 456
" 57. Archibald Forbes, ... 457
" 58. Martin Luther, ... 464
" 59. Grover Cleveland, ... 465
" 60. Mrs. M:, ... 470
" 61. François Maximilien Joseph Isidore Robespierre, ... 471
" 62. Signor Crispi, ... 480
" 63. John Fox, ... 481
" 64. Ellen Terry, ... 486
" 65. Paul Gustave Doré, ... 487
" 66. John Ruskin, ... 494
" 67. Matthias Jacob Schleiden, ... 495
" 68. Peter Corneille, ... 500
" 69. Wilkie Collins, ... 501
" 70. Sir John Frederick William Herschell, ... 508
" 71. Charles Darwin, ... 509
" 72. Miss Adelaide Neilson, ... 516
" 73. Mr. H. Rider Haggard, ... 517
" 74. Mary Anderson, ... 526
" 75. William Shakespeare, ... 527
" 76. Johann Kaspar Lavater, ... 529
" 77. Matthew Vassar, ... 536
" 78. Jay Gould, ... 537
" 79. John Ericsson, ... 544
" 80. John Bunyan, ... 545
" 81. Benjamin Moore, ... 554
" 82. Thomas Paine, ... 555
" 83. Miss Clara Barton, ... 562
" 84. William H. Seward, ... 563
" 85. Ex-Queen Natalie, of Servia, ... 570
" 86. Joseph Garibaldi, ... 571
" 87. Joanna Southcott, ... 580
" 88. Robert Southey, ... 581
" 89. Alice Cary, ... 590
" 90. John Greenleaf Whittier, ... 591
" 91. Miss Harriet Hosmer, ... 604
" 92. Rosalie Bonheur, ... 610
" 93. Ludovico Antonio David, ... 611
" 94. John Leo Gerome, ... 613
" 95. Marcus Tullius Cicero, ... 618
" 96. Bayard Taylor, ... 619
" 97. Frederick Henry Alexander (Baron von Humboldt), ... 626
" 98. William Hickling Prescott, ... 627
" 99. Captain James Cook, ... 636
" 100. George Alfred Townsend, ... 637
" 101. François Jean Dominique Arago, ... 644
" 102. Marco Polo, ... 645

Fig. 103. Madame Anne Germaine de Staël, ... 654
" 104. Noah Webster, ... 655
" 105. Annie Louise Cary, ... 666
" 106. Ludwig Van Beethoven, ... 667
" 107. Etelka Gerster, ... 668
" 108. Auguste Emil Wilhelmij, ... 669
" 109. Sir Isaac Newton, ... 682
" 110. Miss Maria Mitchell, ... 683
" 111. Signor Luigi Arditi, ... 684
" 112. Patrick S. Gilmore, ... 685
" 113. Miss Ida Williams, ... 687
" 114. Mrs. Emily C. Judson, ... 696
" 115. Baron Cuvier, ... 697
" 116. Galileo Galilei, ... 706
" 117. Joseph Louis de Lagrange, ... 707
" 118. Antoinette L. B. Blackwell, ... 716
" 119. Goldwin Smith, ... 717
" 120. Elizabeth Cady Stanton, ... 728
" 121. Benjamin Thompson (Count Rumford), ... 729
" 122. Hermann Louis Helmholtz, ... 730
" 123. Leland Stanford, ... 731
" 124. Charlotte Brontë, ... 738
" 125. Richard Owen, ... 739
" 126. The Muscular Mechanism of the Face, ... 751
" 127. The Osseous Formation of the Face, ... 752
" 128. The Nervous Distribution of the Face, ... 753
" 129. The Glandular Formation of the Face, ... 754
" 130. Geometrical Forms of the Face, ... 755
" 131. Localization of Signs in the Chin, ... 770
" 132. Three General Forms of the Chin—The Globose, ... 771
" 133. The Oval, ... 771
" 134. The Square, ... 771
" 135. The Three Positions of the Chin—The Perpendicular, ... 773
" 136. The Receding, ... 773
" 137. The Projecting, ... 773
" 138. Forms of the Centre of the Chin—Flat, or Stupid, ... 775
" 139 Convex, or Brutal, ... 775
" 140. Indented, ... 775
" 141. A Round-Dimpled Chin, ... 777
" 142. A Cleft-Dimpled Chin, ... 777
" 143. The Broad and Square Chin, ... 779
" 144. A Narrow and Receding Chin, ... 779
" 145. A Sharp, Pointed Chin, ... 779
" 146. The Long, Peaked, and Upturned Chin, ... 779
" 147. A Chin Composed of Fatty Tissue, ... 779
" 148. A Convicted Thief, ... 779
" 149. Prince Talleyrand, ... 783
" 150. Human Embryo, ... 784
" 151. Countess of Huntington (Jaw), ... 785
" 152. Oliver Goldsmith, ... 785
" 153. Laurence Sterne (Jaw), ... 786
" 154. Claude Lorraine (Jaw), ... 788
" 155. Benjamin R. Haydon, ... 789
" 156. Lord Byron, ... 789
" 157. Sir Isaac Newton (Jaw), ... 790
" 158. Voltaire (Jaw), ... 791

Fig. 159. Prognathous Jaws, ... 793
" 160. Mary and Susie, ... 803
" 161. Alexandre Dumas (Lip), ... 804
" 162. William Pitt (Lip), ... 805
" 163. De Witt Talmage (Lip), ... 806
" 164. Jules Favre (Lip), ... 806
" 165. Wilberforce (Lip), ... 807
" 166. A Convict (Lip), ... 808
" 167. A Bashkir, ... 811
" 168. The Destructive Lower Lip, ... 813
" 169. Divisions of Upper Lip, ... 814
" 170. Upper Lip Divided Horizontally, ... 814
" 171. A, Normal Position of Lips; B, Lips of an Egotist, ... 815
" 172. An Imbecile (Lip), ... 817
" 173. The Philoprogenitive Upper Lip, ... 817
" 174. Sir Walter Scott (Lip), ... 818
" 175. Mirthful May (Lip), ... 819
" 176. Robespierre (Lip), ... 821
" 177. The Self-estimative Upper Lip, ... 821
" 178. Henry Ward Beecher (Lip), ... 823
" 179. Normal Upper Lip, ... 823
" 180. Count Cavour (Lip), ... 824
" 181. Normal Line of the Mouth, ... 837
" 182. Normal Margin of the Mouth, ... 837
" 183. Miss Emma Thursby (Mouth), ... 839
" 184. Rosa Bonheur (Mouth), ... 840
" 185. Jean Jaques Rousseau (Mouth), ... 841
" 186. John Quincy Adams (Mouth), ... 841
" 187. Samuel Houston (Mouth), ... 842
" 188. Benjamin Franklin (Mouth), ... 844
" 189. Wm. E. Gladstone (Mouth), ... 844
" 190. Michael Faraday (Mouth), ... 844
" 191. Chief Geronimo (Mouth), ... 846
" 192. A Sensual Mouth, ... 847
" 193. The Two Divisions of the Cheeks, ... 851
" 194. Cherub, by Raphael, ... 853
" 195. The "Diamond Fat Lady," 854
" 196. Lady Pitt, ... 855
" 197. Roger Sherman (Cheek), ... 856
" 198. Dimpled Cheeks, ... 857
" 199. The Concave or Consumptive Cheek, ... 860
" 200. Concave or Dyspeptic Cheek, ... 861
" 201. A Convicted Thief, ... 862
" 202. Normal Upper Cheek, ... 863
" 203. Abnormal Cheeks, ... 864
" 204. Savage Cheek-Bones, ... 865
" 205. The Nose Subdivided, ... 878
" 206. Location in the Nose of the Signs of the Visceral Organs, . . . 879
" 207. Local Signs for the Mental Faculties, ... 881
" 208. The Horizontal Outline of the Nostrils, ... 891
" 209. The Upward Outline of the Nostrils, ... 891
" 210. The Downward Outline of the Nostrils, ... 891
" 211. The Concave Form of the Nose, ... 891
" 212. The Straight Form of the Nose, ... 891
" 213. The Convex Form of the Nose, ... 891
" 214. Embryotic Nose, ... 894

Fig. 215. Idiotic Nose and Forehead, . . . 896
" 216. Snub-nose, . . . 897
" 217. Pug-nose, . . . 898
" 218. Blunt Pug-nose, . . . 898
" 219. The Nez Retroussée, . . . 900
" 220. Singing Nose, . . . 901
" 221. Greek Nose, . . . 903
" 222. Straight Nose, . . . 903
" 223. Artistic Nose, . . . 911
" 224. Dickens (Nose), . . . 912
" 225. Ouida (Nose), . . . 912
" 226. Critic's Nose, . . . 913
" 227. Philosophic Nose, . . . 913
" 228. Dramatic Nose, . . . 915
" 229. Constructive Nose, . . . 917
" 230. Athletic Nose, . . . 918
" 231. Argumentative Nose, . . . 923
" 232. Commercial Nose, . . . 924
" 233. Executive Nose, . . . 924
" 234. Commercial Nose, . . . 924
" 235. Melancholy Nose, . . . 928
" 236. Dishonest Nose, . . . 929
" 237. Mechanical Nose, . . . 933
" 238. Abnormal Nose, . . . 934
" 239. Animal Type, . . . 935
" 240. Revengeful Nostrils, . . . 935
" 241. The Muscles of the Eye, . . . 943
" 242. Large and Round Eye, . . . 946
" 243. Narrow and Elongated Eye, . . . 946
" 244. Oblique Eye, . . . 946
" 245. Artistic Eye, . . . 947
" 246. Reflective Eye, . . . 947
" 247. Agreeable Eye, . . . 948
" 248. Linguistic Eye, . . . 948
" 249. Politic Eye, . . . 949
" 250. Untruthful Eye, . . . 949
" 251. Double Obliquity, . . . 949
" 252. Observing Eyelid, . . . 950
" 253. Licentious and Unprincipled Eye, . . . 950
" 254. Secretive Eye, . . . 951
" 255. Acquisitive Eye, . . . 951
" 256. Truthful Eye, . . . 952
" 257. Normal Eye, . . . 953
" 258. Abnormal Eye, . . . 953
" 259. Polygamic Eye, . . . 954
" 260. Monogamic Eye, . . . 954
" 261. Conjugal Eye, . . . 955
" 262. Large Eye, . . . 959
" 263. Medium Eye, . . . 959
" 264. Small Eye, . . . 959
" 265. Artistic Eye, . . . 962
" 266. Observant Eye, . . . 963
" 267. Magnetic Eye, . . . 963
" 268. Brutal Eye, . . . 963
" 269. Gluttonous Eye, . . . 964
" 270. Beautiful Eyelashes, . . . 970

Fig. 271. Artistic Interciliary Space, ... 971
" 272. Superstitious Type of Interciliary Space, ... 972
" 273. Observant Type of Interciliary Space, ... 973
" 274. Forms of the Eyebrow, ... 977
" 275. Position of the Inner Termini of the Eyebrows, ... 978
" 276. Conceited Eyebrow, ... 978
" 277. Observing Eyebrow, ... 979
" 278. Credulous Eyebrow, ... 979
" 279. Impractical Eyebrow, ... 981
" 280. Artistic Eyebrow, ... 981
" 281. Arithmetical Eyebrow, ... 982
" 282. Æsthetic Eyebrow, ... 983
" 283. Inventive Eyebrow, ... 983
" 284. Vital Eyebrow, ... 984
" 285. Delicate Eyebrow, ... 984
" 286. Perpendicular Forehead, ... 988
" 287. Receding Forehead, ... 988
" 288. Practical Forehead, ... 989
" 289. Projecting Forehead, ... 989
" 290. Infantile Forehead, ... 990
" 291. Mechanical Forehead, ... 990
" 292. Artistic Forehead, ... 991
" 293. Scientific Forehead, ... 991
" 294. Vital Beard, ... 1008
" 295. Vital Moustache, ... 1009
" 296. External and Internal Ear, ... 1023
" 297. Three Divisions of the Ear, ... 1024
" 298. Ear of Patti, ... 1027
" 299. Ear of Gerster, ... 1027
" 300. Ear of Lucca, ... 1027
" 301. Ear of Sembrick, ... 1027
" 302. Ear of Capoul, ... 1027
" 303. Ear of Annie Louise Cary, ... 1027
" 304. Ear of Master Solomon, ... 1027
" 305. Ear of Passmore, ... 1027
" 306. Ear of Master Gibson, ... 1027
" 307. Ear of Campanini, ... 1027
" 308. Unmusical Ear, ... 1028
" 309. Oratorical Ear, ... 1029
" 310. Commercial Ear, ... 1029
" 311. Normal Direction of Primitive Line, ... 1032
" 312. Primitive Line in Upper Lip, ... 1033
" 313. Talker's Wrinkle, ... 1036
" 314. Approbative Wrinkle, ... 1036
" 315. Malicious Wrinkles, ... 1038
" 316. Executive Wrinkles, ... 1038
" 317. Conscientious Wrinkles, ... 1038
" 318. Persevering Wrinkles, ... 1039
" 319. Mirthful Wrinkles, ... 1040
" 320. Talented Wrinkles, ... 1041
" 321. The Wilful Neck, ... 1060
" 322. The Amative Neck, ... 1061
" 323. The Attentive Neck, ... 1062
" 324. The Sagacious Neck, ... 1063
" 325. The Graceful Neck, ... 1064

FIG. 326. THE NECK OF COQUETRY, ... 1065
" 327. THE AVARICIOUS NECK, ... 1066
" 328. THE VEGETATIVE HAND, ... 1072
" 329. SPATULATE HAND, ... 1072
" 330. ARTISTIC HAND, ... 1075
" 331. SUPERSTITIOUS HAND, ... 1075
" 332. SCIENTIFIC HAND, ... 1077
" 333. PHILOSOPHIC HAND, ... 1077
" 334. MENTAL HAND, ... 1079
" 335. USEFUL HAND, ... 1079
" 336. BEAUTIFUL HANDS, ... 1080
" 337. BEAUTIFUL HAND, ... 1081
" 338. THE FARNESIAN HERCULES, ... 1087
" 339. NORMAL FEMALE WAIST, ... 1090
" 340. ABNORMAL FEMALE WAIST, ... 1090
" 341. THE VENUS DE MEDICI, ... 1091
" 342. EGERIA, ... 1091
" 343. DANIEL APPLETON, ... 1120
" 344. JOHN WANAMAKER, ... 1121
" 345. PHINEAS T. BARNUM, ... 1122
" 346. MICHAEL ANGELO, ... 1123
" 347. RAPHAEL SANZIO, ... 1124
" 348. ALFRED TENNYSON, ... 1125
" 349. TORQUATO TASSO, ... 1126
" 350. EDWIN BOOTH, ... 1127
" 351. ADELAIDE RISTORI, ... 1128
" 352. BLANCHE BARRETTA, ... 1130
" 353. JOSEPH JEFFERSON, ... 1131
" 354. MADAME RECAMIER, ... 1134
" 355. GIULIA GRISI, ... 1135
" 356. FRANZ SCHUBERT, ... 1137
" 357. RICHARD WAGNER, ... 1138
" 358. ARIADNE, ... 1140
" 359. M. PASTEUR, ... 1142
" 360. EDWARD JENNER, ... 1143
" 361. JOHN HUNTER, ... 1144
" 362. MASTER HARRY SHANNON, ... 1147
" 363. HENRY CLAY, ... 1148
" 364. ERNESTINE L. ROSE, ... 1149
" 365. HENRY HART MILMAN, ... 1152
" 366. CARDINAL HENRY EDWARD MANNING, ... 1153
" 367. CYRUS HALL MCCORMACK, ... 1157
" 368. CAIUS JULIUS CÆSAR, ... 1160
" 369. SIR CHARLES JOHN NAPIER, ... 1161
" 370. MARY SOMERVILLE, ... 1164
" 371. KARL VOGT, ... 1165
" 372. WASHINGTON A. ROEBLING, ... 1166
" 373. JAMES B. EADS, ... 1167
" 374. ANTHONY ROTHSCHILD, ... 1170
" 375. GEORGE PEABODY, ... 1172
" 376. WILLIAM DWIGHT WHITNEY, ... 1174
" 377. MRS. FRANK LESLIE, ... 1176
" 378. CHARLES DICKENS, ... 1178
" 379. WILLIAM MAKEPEACE THACKERAY, ... 1179
" 380. ARMAND RICHELIEU, ... 1181

HOW TO STUDY AND USE

THE ENCYCLOPÆDIA OF FACE AND FORM READING

EMBRACING

ORIGINAL ARTICLES BY PROMINENT PHYSICIANS,
LAWYERS, EDUCATORS, EMPLOYERS, ETC.

CONTAINING

MANY LEADING QUESTIONS UPON CHARACTER READING AND
OTHER IMPORTANT PROBLEMS OF HUMAN THOUGHT
AND ENDEAVOR.

INDEX OF SUGGESTIONS AND AIDS.

AUTHOR	SUBJECT	PAGE
The Publishers	"How to Use Face and Form Reading"	A- 3
E. E. Montgomery, M.D.	"Husband and Wife"	A- 9
Egbert H. Grandin, M.D.	"The Daughter"	A-12
Frank Woodbury, M.D.	"Consumption and Catarrhal Conditions"	A-15
O. B. Douglas, M.D.	"Tendency to Consumption and Catarrh"	A-18
John V. Shoemaker, A.M., M.D.	"Beauty of Face and Form"	A-23
James K. Young, M.D.	"Face and Form Reading for the Diagnostician"	A-26
James K. Young, M.D.	"The Physician"	A-28
Edward Brooks, A.M.	"The Progressive Teacher"	A-33
H. Winfield Wright, LL.B.	"Teacher and Pupil"	A-39
Hamilton Disston, Esq.	"The Employer and Employe"	A-42
George A. Peltz, D.D.	"The Clergy"	A-47
Hon. Judge John L. Kinsey	"Lawyer and Counselor"	A-51
The Publishers	"Railroad Management"	A-58
" "	"The Child"	A-62
" "	"Longevity Through Hygiene"	A-66
" "	"Improvement and Development"	A-69
" "	"Historical Sketch"	A-72

HOW TO USE

FACE AND FORM READING

WITH A VIEW TO ITS PRACTICAL APPLICATION.

To AID in thoroughly understanding this work and to make its principles of practical application, we have had prepared a series of questions on Special Topics by gentlemen eminent for their knowledge in the particular directions indicated.

The publishers have also had the co-operation of educators and students of Psychology in preparing a still further list of Special Topics (all pertinent to the subject), in order to render this department of "Aids" of special use in the study of "The Encyclopædia of Face and Form Reading," and to make the work as far as possible Self-interpreting. This we commend to you for careful consideration and use.

SPECIAL ARTICLES.

Please read the Special Articles and *study* the answers carefully, every one of which has been prepared specially for this work by persons eminent in their various specialties and acknowledged as an authority *upon his particular topic.*

HUSBAND AND WIFE. How can "Face and Form Reading" be made useful to Husband and Wife in creating and developing The Ideal Home through Happy Marriage?

See article by E. E. MONTGOMERY, M.D., Clinical Professor Gynæcology Jefferson Medical College, Gynæcologist to Jefferson and St. Joseph's Hospitals, Philadelphia, Pa.

EMPLOYER AND EMPLOYÉ. How can "Face and Form Reading" be made of great use to Employer and Employé?

See article by HAMILTON DISSTON, ESQ., of H. Disston's Sons, Keystone Saw and Tool Works, Philadelphia, Pa.

TEACHERS.—How can "Face and Form Reading" be made an Assistant to the School-Teacher in the Training and Development of the scholar, with especial reference to the Refractory and Dull pupil.

See article by PROF. H. B. WHITTINGTON, Principal Keystone Boys' Grammar-School, Nineteenth and Chestnut Streets, Philadelphia, Pa.

TEACHERS (SPECIAL). How can "Face and Form Reading" be rendered a Valuable Assistant to Teachers in Schools, Academies, and Colleges?

See article by EDWARD BROOKS, A.M., Superintendent of Public Schools, Philadelphia, Pa.

SON AND DAUGHTER. How will "Face and Form Reading" assist in the Physical and Mental Development of the Son and Daughter?

See article by EGBERT H. GRANDIN, M.D., Obstetric Surgeon New York Maternity Hospital, Cynæcologist to French Hospital, etc., New York.

TENDENCY TO CONSUMPTION, ETC. How will "Face and Form Reading" indicate Consumptive or Catarrhal Tendencies in Son and Daughter?

See article by O. B. DOUGLAS, M.D., President New York State Medical Society, Professor of Diseases of the Nose and Throat, New York Post-Graduate Medical School and Hospital, etc., New York, N. Y.

DISCERNIBLE SIGNS IN HEALTH AND DISEASE. The Discernible Facial and Bodily Signs of the Visceral Organs: their Condition of Development and of Health and Disease.

See article by A. R. THOMAS, M.D., Dean of Hahnemann College, Philadelphia, Pa.

PNEUMATIVE PATIENTS. The Physiognomy of Pneumative Patients and its Relations to Diagnosis and Treatment.

See article by FRANK WOODBURY, A.M., M.D., Honorary Professor of Medicine in Medico-Chirurgical College, Philadelphia, Pa.; Associate Editor Journal American Medical Association; Fellow of the College of Physicians, Philadelphia, Pa.

BEAUTY, ETC. Physiognomy in Beauty of Face and Form.

See article by JOHN V. SHOEMAKER, A.M., M.D., Professor of Materia Medica, Pharmacology, Therapeutics, etc., Medico-Chirurgical College, Philadelphia, Pa.

THE PHYSICIAN, PROFESSIONALLY AND SOCIALLY. How "Face and Form Reading" can be made useful to the Physician Professionally and Socially.

See article by EGBERT GUERNSEY, A.M., M.D., Consulting Physician Hahnemann Hospital, N. Y.; President Medical Board Metropolitan Hospital, Blackwell's Island, N. Y.; President New York State Homœopathic Medical Society; Formerly Vice-President State Hospital for the Insane, etc., Middletown, N. Y.

CHURCH ORGANIZATION AND DEVELOPMENT. How will a study of "Face and Form Reading" aid the Pastor in Church Organization and Development?

See article by REV. GEO. A. PELTZ, D.D., Associate Pastor "The Temple," Broad and Berks Streets, Philadelphia, Pa.

LAWYER AND COUNSELOR. The aid "The Encyclopædia of Face and Form Reading" may be made to render those interested in Legal, Judicial, and Deliberative Professions.

See article by HON. GEORGE S. GRAHAM, District Attorney, Philadelphia, Pa.; assisted by HON. JOHN L. KINSEY, Assistant District Attorney, Philadelphia, Pa.

RAILROAD MANAGEMENT AND OPERATION. Subjects of interest to those engaged in Managing and Operating Railroads.

See article by THE PUBLISHERS.

THE CHILD. How will a study of "Face and Form Reading" aid Parents and Guardians in the Raising, Training, and Education of the Child?

See article by THE PUBLISHERS.

LONGEVITY THROUGH HYGIENE. How will "Face and Form Reading" aid in attaining Longevity through Hygiene?

See article by THE PUBLISHERS.

HUMAN IMPROVEMENT AND DEVELOPMENT. What Light will "Face and Form Reading" throw on Human Improvement and Human Development?

See article by THE PUBLISHERS.

ADDITIONAL VALUABLE AIDS.

In connection with the above special articles from the eminent gentlemen whose names are appended thereto, we would call your attention to the following additional topics:—

TEACHINGS OF PHYSIOGNOMY, ETC.

What is Physiognomy, or Face and Form Reading, and how does the encyclopædia teach it? Pages 7-11.

Of what is the Human Face the index, and how does the encyclopædia show it? Pages 15, 16.

What creates Form and Character? Page 59.

Upon what is Physiognomy, or Face and Form Reading, based? Pages 27–58.

CHEST-DEVELOPMENT.

What does it indicate, and of what importance to Health and Character? Pages 71–75.

See also articles by Drs. Montgomery, Shoemaker, Woodbury, Grandin, Douglass, etc.

MUSCULAR DEVELOPMENT.

In what way does it assist in forming and developing character? Pages 75–79.

MUSCULAR DEVELOPMENT (*continued*).

See also special articles by Drs. Shoemaker, Woodbury, Grandin, Douglass, etc.

In selecting trades or professions for our children, to what should particular attention be paid? Pages 91, 92.

Will a study of "Face and Form Reading" aid you in developing the Son and Daughter, Mentally and Physically? Read carefully pages 137–147.

Will "Face and Form Reading" point out to you the signs for good digestion? Pages 165-168.

What depends upon good digestion? Pages 165–168

See also articles by Drs. Shoemaker, Grandin, Woodbury, Montgomery, etc.

MENTAL POWERS.

Upon what does a good memory depend? Page 203.

Where and from what do the Mental faculties derive their power? Pages 236, 237.

Upon an analysis of each of the following Mental Faculties, what do we learn as to their force, and how can we distinguish their signs in Face and Form? Pages 242–270.

Amativeness, Jealousy, Revenge, Secretiveness, Suspicion, Anger, Will, Temper, Selfishness, Self-conceit, Scorn, Enthusiasm, Laziness, Obstinacy, etc.

Along with the analysis of each of these separate traits are suggestions as to usefulness, how to restrain if in excess, how to develop if deficient.

This is of special importance, and we ask you to carefully read so as to gain a balanced character.

INTERNAL ORGANS.

How does the face indicate the condition of the following internal organs? Pages 276–287.

Kidneys, Intestines, Reproductive Organs, Liver, Lungs, Heart, Stomach, Muscles, Bones, Brain, Nerves, etc.

See also articles by Drs. Thomas, Shoemaker, Grandin, Woodbury, Douglass, etc.

FACULTIES.

Please examine chart. Page 288.

You will there find Forty-five Mental Faculties accurately located, a study of which will aid you in locating signs of character in the human face.

For the definition and description of the signs and powers of these Forty-five Mental Faculties or traits, see examples and read carefully from page 302 to 748.

How is the faculty of Amativeness, or Sex-Love, instrumental in developing beauty? Page 357–367.

ANALYSIS OF CHARACTER FROM PORTRAITS.

What do we learn of the character of the following?

Thomas Jefferson (Statesman). Page 438.

Arch. Forbes (War Correspondent). Page 457.

Robespierre (Revolutionist). Page 471.

Gustav Doré (Artist). Page 487.

H. Rider Haggard (Author, Novelist). Page 517.

Wm. Shakespeare (Dramatist). Page 527.

John Ericsson (Inventor). Page 544.

ANALYSIS OF CHARACTER FROM PORTRAITS (*continued*).

W. H. Seward (Statesman). Page 563.

General Garibaldi (Commander). Page 570.

Rosa Bonheur (Artist). Page 610.

Bayard Taylor (Traveler, Author). Page 619.

Charlotte Bronte (Novelist). Page 738.

How does the faculty of Sublimity assist in giving nobility to the character? Page 509.

SPECIAL FACIAL SIGNS IN READING CHARACTER.

Noses. Pages 878–936.

Eyes. Pages 939–973.

Eyebrows. Pages 974–986.

Foreheads. Pages 787–992.

Hair (*color*, *quality*, and *quantity*). Pages 997–1015.

Beard (*color*, *quality*, and *quantity*). Pages 1010–1015.

Ears (*very significant*). Pages 1020–1032.

Ears, Musical (*examples.*) Page 1027.

Facial Lines. Pages 1032–1042.

Smiles and Laughter. Pages 1054–1057.

Necks. Pages 1057, 1058.

Willful. Pages 1059, 1060.

Amative. Page 1060.

Self-esteem. Page 1061.

Attentive. Page 1061.

Sagacious. Page 1063.

Timid. Page 1063.

Graceful, etc. Page 1063.

Hand. Shape, contour, etc. All have weight in indicating mentality. Read from page 1067 to 1084.

FEATURES.

How do the features reveal health, disease, strength, weakness, beauty, etc.? Pages 1093–1106. Also special articles of Drs. Montgomery, Shoemaker, Woodbury, etc.

How can you tell the well-bred or thorough-bred person? Pages 1108–1109.

VOCATIONS.

What shall be the vocation of my son, and why? Page 1111.

What the vocation of my daughter? Page 1111.

How can I learn the character and mental faculties of myself and others? See "Method to Pursue," etc. Pages 1114, 1115.

What physical systems and what mental faculties are required in the different trades and professions? Read carefully the whole article, particularly if you are choosing a profession or trade for your son or daughter. Pages 1116–1183.

CONCLUSION.

These hints for the use of Face and Form Reading, in connection with the special articles to which we again call your attention, will show you how a thorough study and application of the principles of Physiognomy cannot fail to be of great practical use in every walk and condition of life.

HUSBAND AND WIFE.

How to Become the Ideal Wife; How to Recognize the Ideal Husband; How to Achieve the Ideal Home.

By E. E. MONTGOMERY, M.D.,

Clinical Professor of Gynæcology in the Jefferson Medical College; Gynæcologist to Jefferson and St. Joseph's Hospitals.

No relation can so affect, for weal or woe, the life of any individual as that of husband and wife. Probably no great move, in the course of one's life, is ever made with less thought or consideration than that which unites two souls as one, and influences their destinies both here and hereafter. Not only theirs, but that of those who come after them for generations.

Propinquity, or a fancy, will direct two lives into one current to subsequently irritate and disturb each other until death affords a grateful release. Neither the chooser nor the chosen has had the least appreciation of the injunction, "know thyself," and consequently are in deepest ignorance of what qualities should be found in a life-companion to afford the highest degree of happiness. The stock-raiser exercises the greatest care in breeding domestic animals, and the advantages of such study can only be appreciated when we compare the cultivated with a neglected herd. Experience has demonstrated that by careful and systematic breeding blemishes can be eradicated and desirable qualities cultivated and developed.

It is a source of deepest regret, under such circumstances, that the seeds of this knowledge cannot be implanted in the minds of individuals sufficiently early to induce the young person contemplating matrimony to choose a companion who will aid in propagating a strong and healthful progeny. Not only should good health be a desideratum, but those qualities of head and heart which will render his companionship delightful or, at least, endurable should be discovered. The parents who are anxious for the comfort and happiness of their children will endeavor to point out their inherited tendencies with the proper method of training to lessen their evil influence, and instruct them as to the qualities in a life-companion required to supplement their faults and strengthen and develop their good qualities.

The aim of every woman is to retain her beauty, and thus insure the maintenance of her personal charms. It should not be forgotten that physical beauty is dependent upon health of body, and that many of the frailties of mind which render her companionship ofttimes unendurable are due to ill health. Health of body and mind are obtained and maintained only through obedience to the laws of hygiene, exercise, and diet.

That face and form is an index of character has long been well known, and is, possibly, more or less insensibly utilized in all our relations with our fellow-men.

Its systematic interpretation is the object of this work, and to render it available in the choice of a life-companion shall be the aim in the introduction of the following references and questions:—

Probably no one vice of the present day has a more baneful influence upon the life and comfort of the woman than the habit of Tight Lacing. Page 1092.

Indications of defective lung-power and nutrition are found upon page 1096.

Special signs of disease and constitutional defects. Pages 1097, 1098.

Disclosure of the character determined by observation of the eye and forehead. Page 1103.

Hints as to cause of ill health and poor appearance of the woman. Page 1089.

How to secure reduction of size without loss of strength. Pages 1109, 1110.

The advantage of a knowledge of Physiognomy. Page 1105.

Diseases of the kidneys and reproductive organs indicated by the eyes. Page 1103.

Diseases to which a woman defective in pigment or color is liable. Page 1098.

Disorders induced by Tight Lacing. Pages 1091, 1092.

How can this work be utilized in correcting faults and promoting Marital Happiness? Pages 270, 1185.

Self-love the most prevalent form of mental weakness. Page 1209.

How is it influenced, and upon what is Hope dependent (the normal activity of the entire body)? Page 189.

Of what advantage is the possession of Self-love in normal proportion? Pages 178, 179.

What is the facial indication of Hope? Page 188.

The advantage of a good chest-development in a companion. Page 73.

How can we improve the race? Page 99.

How may we choose a vocation for a life-companion? Page 1113.

How can a well-bred person be recognized? Pages 1108, 1109.

What information regarding love will the eye reveal? Page 956.

What is the Conjugal Eye? Page 955.

What information is revealed by the mouth? Page 845.

How is beauty, strength, and character expressed? Page 801.

How is Love of Children indicated? Page 817.

How is a weak nature disclosed? Page 785.

How would you recognize a contrary person? Page 791.

How is Self-will indicated? Page 570.

What are the results of excess and deficiency of Self-will? Pages 569, 570.

What will be the advantage of a fair proportion of Veneration? Page 557.

How may compensation through training be procured for the absence of Veneration? Page 556.

How is Veneration indicated? Page 553.

How may the faculty of Ideality be recognized? Page 517.

What is the advantage of the possession of Ideality? Page 522.

How is Hope designated? Page 486.

In what way does Hope prove attractive? Pages 487, 492.

What is the advantage of possessing well-balanced Self-esteem? Page 442.

How may it be recognized? Page 436.

It should be judiciously combined with Force and Modesty. Pages 446, 455, 460.

How may Sanativeness be desirable in both husband and wife, and especially in the latter? Pages 427–429.

How may the possessor of Sanativeness be recognized? Page 427.

How may Friendship be most delightfully combined? Page 391.

What is Amativeness? Page 355.

What are the physical signs of Amativeness? Page 355.

What combination of Amativeness will make a delightful conjugal companion? Pages 5, 361.

How is Love of Home indicated? Page 324.

How should Love of Home be cultivated? Page 326.

In what way may Love of Home be developed in the young? Page 328.

What are the signs of Economy? Page 318.

In how far is Economy a desirable trait? Page 322.

What may be said of Real Economists? Page 323.

What is the best Economy? Page 322.

How is Conscientiousness indicated? Page 302.

In what way do Gestures disclose character? Page 299.

I feel confident that consideration of the questions given will indicate to the attentive reader that much useful information can be derived from the study of "Face and Form Reading." The grouping of these different faculties, or the index that has been arranged from experience, may be found on pages 277 and 288.

In this relation, as in every other in life, "knowledge is power." Under the most favorable circumstances married life is a compromise in which each party must bear and forbear. She who is equipped with the ability to detect the weak places in the characters of herself and her companion, being forewarned, is armed to meet and overcome difficulties. While it cannot be claimed that the science of physiognomy has reached perfection, we feel assured that a study of the foregoing pages will repay any woman, and will enable her to so systematize her knowledge of Human Nature as to better fit her for life's duties.

THE DAUGHTER.

THE IDEAL EDUCATION TO FIT HER FOR THE GREATEST POSSIBILITIES OF WOMANHOOD, HAPPY SELECTION IN MARRIAGE, AND PERFECT MOTHERHOOD. THE AID "FACE AND FORM READING" MAY BE MADE TO RENDER IN SUCH EDUCATION AND TRAINING.

By EGBERT H. GRANDIN, M.D.,

Obstetric Surgeon to the New York Maternity Hospital; President of the New York County Medical Society, etc.

A CRITICAL study of this "Cyclopædia of Face and Form Reading" convinces me that the subject matter rests on a scientific basis, and that the work is one which might to great advantage be placed in the hands of every thinking man and woman in the land. Further, it is an eminently *safe* work to give to our children, the diction being pure even when referring to topics which an absurd custom has forced us to hide from our young until, in the growth of inquiring mind, they come to us as parents for information or, through shame-facedness, have sought to acquire the craved-for knowledge from companions whose thoughts, not being pure, have tinctured the extended information with the inklings of the impure.

A busy professional career, which has thrown me chiefly in contact with the female sex, has taught me that our methods of training our children might in certain respects be bettered, particularly in regard to the giving of information in reference to the sexual function—its necessity and its purpose. As well expect the newborn infant to walk unaided as to expect our daughters to be guided by other than, frequently, mere fancy in the selection of a partner for life, when ignorant as they are of the great purpose of marriage and of the necessary function of reproduction. Even as I am convinced that it is the duty of mothers to give their daughters information in regard to the married state, after the pure manner which will come naturally to good and to pure minds, even so does it seem to me that the reading of this treatise under the guidance of parents will result in the acquisition of much knowledge which must aid the girl in the selection of a partner for life fitted to make her and her children happy, and which, further, must assist her in avoiding the choice of a *roué* and a libertine—the type that makes not alone a brutal husband, but which starts unhealthy and cruel, often criminal, children on life's pathway.

Without committing myself definitely to the opinion that *all* in this work is golden,—that is to say, is founded on a scientific basis;

for much more than a cursory reading is necessary to fully grasp the subject-matter in its entirety,—I am prepared to acquiesce in the statements which follow the questions appended below, and which have been selected with the end in view of calling the attention of my readers to the fashion after which this work may prove of assistance to Daughters in selecting suitable husbands, and to Sons in selecting proper wives. There are critics who will object to making of marriage a species of Natural Selection, robbing it as it were of *romance ;* but even such, on proper thought, must admit that fewer unhappy and uncongenial marriages would result were both the Son and the Daughter educated to weigh this most important step in life less from the stand-point of the moment's fancy and more from the stand-point of future possibilities. We may even go farther and test this question from the stand-point of the bringing into the world of children Healthy not only in Body, but also in Mind. Hastily- and unthinkingly- contracted marriages are responsible for many an idiotic or epileptic child; I might add, for many a criminal. A careful reading of this work, therefore, may redound to the good not alone of the individual, but also of Society, using the term in its broad sense of the *Commonwealth.*

The dream of every woman is to have a happy, congenial Home, and, if her thoughts extend so far, healthy children: the aim of every man is to possess a pure woman as Wife, capable of healthy and strong Motherhood. Anything which leads to the fulfillment of this dream and to the fruition of this aim is worthy of commendation from a citizen, irrespective of his vocation.

AMATIVENESS (OR SEX-LOVE) AND CONJUGALITY.

In what part of the face is the primary or first sign of Amativeness to be found? Page 355.

How is vigor and development of the Reproductive System shown by this feature? Page 355.

What is the second general sign of Amativeness as shown by the form? Page 355.

Where has this been localized by the author as an important secondary sign? Page 355.

What feature of the face distinguishes Conjugality, or fitness for the married state, most fully? Page 358.

Which persons are likely to have the most Creativeness or Originality? Page 360.

What is the full definition of Amativeness? Page 355.

What faculty, in connection with Amativeness, insures constancy and devotion? Page 361.

What are the facial signs of this faculty? Pages 303–385.

What additional faculty indicates zeal and devotion, the possessor of which will defend the interests and honor of his companion with ardor, and remain faithful through all the vicissitudes of health and fortune? Pages 361, 362.

WALK AND GESTURES.

Have you ever noticed any peculiarities in walk, gestures, speech, or laughter of your daughter? Have they any significance? If so, what? Pages 11, 14, 15.

HOSPITALITY, GOOD NATURE, AND AMIABILITY.

What and where are the general facial and bodily signs for Good Nature, Amiability, and Cheerfulness? Page 373.

Where is to be found the facial sign for Hospitality, so important in making a happy home? Page 392.

CORRELATION OF THE MENTAL AND PHYSICAL.

In what manner is the Mental dependent upon the Physical? Pages 23, 73.

HARMONY AND EQUILIBRIUM.

Nature uses her forces to produce Harmony and Equilibrium. How can the thoughtful parent assist Nature? Pages 53–57.

What hygienic measures should you adopt if your daughter's body is weak and not in harmony with her mind? Pages 59–61.

If your daughter is studying hard and her physical growth not keeping pace with her mental progress, how can you discern this, and what does the author recommend to produce Harmony? Pages 80, 81, 98, 99.

What is a well-balanced, harmonious mind? If not possessed by your daughter, can it be attained? How? Read carefully pages 133–135.

PRECOCIOUS DAUGHTERS.

If the daughter is young, but has a precocious mind, what are the best means to thoroughly harmonize body and mind and prevent early decay or decline? (An important chapter; read carefully.) Pages 138, 139, etc.

COLOR.

What is the complexion of your daughter? Blonde, Brunette, or a Composite of both? Has she Light or Dark Hair and Eyes? What does it signify as to health or disease and the tendency to either? What general character and faculties does it indicate? Pages 128–130.

HEALTH.

What bearing has good health on the character and development of the daughter mentally and physically, and how is it best conserved? Page 103.

What tendency has compression of the female waist to induce a train of evils detrimental to health and beauty, and why should reform in this matter be gently, but firmly, urged upon the daughter? Page 81.

ORDER.

What part of the face indicates Love of Order and Neatness? Pages 445, 696.

SPORTS AND RECREATIONS.

Fond and indulgent parents, as a rule, are very apt to be easy with the daughter, more particularly if an only one. They are solicitous that she does not work too hard. Should you not be as solicitous as to the kind and amount of her sports and recreations, and guide her into such channels as will tend to develop all latent forces? Pages 141, 142.

COMPANIONSHIP.

What kind of a companion will the daughter be if she is quick to learn and of a restless and eager disposition? Page 73.

If this tendency is in excess, how can it be directed and controlled? Page 73.

Parents should draw close to the daughter; endeavor to learn her thoroughly, her hopes and fears; shield, protect, and mold her body and mind for every duty and responsibility, and fortify against every vicissitude of life. What aid will "Face and Form Reading" give you in this labor of Love and Duty? Pages 118–120.

CONSUMPTIVE AND CATARRHAL CONDITIONS.

FACE AND FORM READING OF PNEUMATIVE PATIENTS, AND ITS RELATIONS TO DIAGNOSIS AND TREATMENT.

By FRANK WOODBURY, A.M., M.D.,
Honorary Professor of Clinical Medicine, Medico-Chirurgical College, Philadelphia;
Associate Editor of the Journal of the American Medical Association;
Fellow of the College of Physicians, Philadelphia, Pa.

Two distinct, but distantly-related, questions are discussed in "The Encyclopædia of Face and Form Reading." Both are of great importance to society, especially to all who are interested in solving the problems of psychology and physiology, under various conditions of health and disease. The physician, more than any other member of the community, is engaged in this study and in applying the results to practical uses. The first of the questions considered by the author is: To what extent are moral traits and intellectual capacity revealed by face and form? The second question is: What do physical features indicate with regard to diathesis or actual disease? The first question appeals to the poet, the painter, and the philanthropist especially, but is of general interest to all who are brought into daily contact with their fellow-men. The second question more directly attracts the attention of the physician, since it bears upon the process of diagnosis, and also concerns the prognosis, since it enables him to predict to some degree the future course of the disease.

Restricting the comments which I shall make to the physiognomy of pneumative patients, I will now proceed to inquire to what extent the diagnosis and prognosis of diseases of the air-passages are indicated by physiognomy, or the outward traits of feature and form. Pneumativeness is the name of the physiological function which presides over the introduction of oxygen and other gases into the body, the interchange of gases in the blood, and the expulsion of vapors and gases from the system. Our author, under this head, also includes "the *mental faculty* which *takes cognizance* of air, gases, and vapors." (See page 397.) As this also has a bearing upon medical practice, it will be interesting to note that, in the author's words, "this faculty gives the love and desire for fresh, pure air, and a capacity for distinguishing readily the differences in atmospheres; detects odors and effluvia arising from decomposition; gives keenness of scent, and enables one at a distance to scent the slightest odor of smoke, gas, or any peculiar change in the composition of atmospheric air. It gives a love for out-door life and a dislike to crowds, close rooms, vitiated atmosphere, and of vile odors. Those who have a large measure of this function and faculty exhibit great recuperative powers, also ability for imparting health to others by hand-rubbing and by their cheerful and moral atmosphere." It is clear that this function and faculty should be the special study of physicians, since it "gives a love of life and activity, as well as power to resist and overcome disease." Since an excess "cannot be considered injurious unless it lead one to pass too much time in out-door sports to the neglect of ordinary business," and "a deficiency tends to weakness of all the moral and mental powers, to consumption and early death," the importance of the knowledge of pneumativeness and of the means of its cultivation when deficient is very obvious. The facial and bodily signs by which it can be recognized and the method of developing weak organs so as to increase this indispensable function are given at some length in the work, and need not be repeated here.

The special point to which attention should be directed is the fact that the size of the lungs and so-called vital capacity is related to the width of the nostrils, the color of the skin, the breadth of the face externally to the eyes, and the expression of the countenance. Narrow nostrils, mouth-breathing, and pallid faces accompany contracted chests and insufficient pulmonary development. The latter class are particularly liable to suffer from catarrhal affections, nasal hypertrophies, enlarged tonsils, sore throat, laryngitis, bronchitis, and chronic pulmonary affections. The author very ably indicates the method of appropriate exercises to overcome the physical condition underlying deficient pneumativeness and to increase the size of the chest and the respiratory power. Incidentally it is intimated that the mental faculty corresponding thereto will also be developed, and that the acquiring of the power to overcome and to heal disease is also within the possibility of those who desire to grow in grace and knowledge, and will take the trouble to work out their own salvation.

As regards the actual application of these observations to clinical medicine, we recall the fact that the consumptive face has long been an object of study, and with the aid of composite photography its principal features have, to some extent, become established. When the patient presents a hectic flush restricted to two small spots in the upper part of the cheeks, the rest of the face pale, the nostrils narrow, the lips thin, the face somewhat drawn, and the eyes brightened by fever, there is little doubt about the diagnosis, and the condition is universally recognized; taking from this the incidental element of the fever, and the physiognomy of an earlier stage is apparent. As already stated, the narrow nostrils and want of breadth across the upper part of the face, with deficient color in the skin, indicate a tendency to phthisis, which should suggest to the acute observer the timely adoption of preventive measures. Such a condition also indicates a tendency to catarrhal disorders, especially quinsy and chronic throat diseases.

For the diagnosis of diseased conditions we have special indications in physiognomy. For instance, the expression is very much changed by the growth of nasal polypi, by which the nose may be so broadened at the base as to give a frog-like appearance to the face. As the result of chronic catarrh or specific inflammation or of injury, the bridge of the nose may be depressed; or, owing to deviation of the nasal septum, the nose may be deformed or distorted. Enlarged tonsils and mouth-breathing cause a stupid expression of the face. Various forms of growths in the antra, in the frontal sinuses, and in the nasal chambers seriously alter the shape of the features. The color is affected by obstructed respiration, and the face may be swollen and dusky and the lips blue in croup, diphtheria, and laryngeal spasm, or œdema.

If, as the author states, deep breathing stands in close relationship to "high thinking," it is evident that it is well to practice respiratory gymnastics for moral and intellectual, as well as for hygienic, reasons.

TENDENCY TO CONSUMPTION AND CATARRH.

HOW WILL FACE AND FORM READING INDICATE CONSUMPTIVE OR CATARRHAL TENDENCIES IN SON AND DAUGHTER, AND AID IN OVERCOMING OR ERADICATING THE SAME.

By O. B. DOUGLAS, M.D.,

Professor of Diseases of the Nose and Throat in the Post-Graduate Medical School and Hospital; Surgeon to Manhattan Eye and Ear Hospital, Throat Department; Late President of the Medical Society of the County of New York; Fellow of the New York Academy of Medicine, etc.

"As the dial is to the clock, so is the face to man."—Page 20.

WHAT do we read in the face and form of child or friend? What *may* we read regarding their physical condition and tendency to disease? Can we detect the beginning of trouble to be avoided, and differentiate what will prove fatal, if not combated, from conditions they will pretty certainly recover from? Why do some escape without effort from the ills of life against which others wage ceaseless warfare, only to succumb finally to the inevitable? And is there an index to the evils that our son or daughter will meet, and are there labors and pleasures which they cannot endure? How are these things revealed to the wise and prudent? May I acquire such knowledge?

Let us see what "Face and Form Reading" means. It is really diagnosis under a different name. If our friend is sick, we send for a physician that he may discover the cause of illness, make a diagnosis, and prescribe a remedy. We prefer that he should *see* the patient, and the conscientious physician would hesitate before taking the responsibility of prescribing for one he has not seen; *only quacks do that.* The *skilled* doctor has studied this science of signs, and all may learn much by systematic observation. The medical profession concedes the vast practical value of being able readily to read the face and form accurately. To know the cause of certain effects is preliminary to knowing, in many cases, how to ward off those effects.

Of all the ills common to humanity catarrhal diseases are the most common, and they cause most suffering in the aggregate; they are far-reaching and destructive to usefulness and happiness as they have been most neglected or improperly cared for. In no class of diseases are facial and bodily signs more marked and significant than in catarrhal and consumptive conditions. What can this science of "Face and Form Reading" teach parents regarding the physical tendencies of their sons and daughters toward pulmonary and catarrhal diseases? How can such a tendency be overcome? How may every father and mother learn to read these signs in their earliest manifestations? It is impossible to compute the number of lives lost that might have been saved, and the amount of suffering endured that might have been avoided, if parents had possessed the knowledge required to detect a tendency to disease and had pursued the course necessary to escape its dire effects.

I have read this work with interest and with special reference to the detection of these diseases and their treatment. Most of its instructions are valuable, practical, and adapted to popular use. To obtain the greatest benefit from it, the work should be studied until its strong points are well understood and its teachings made effective by practical application. Yet a single hint may be seed planted that shall develop glorious fruitage through all time.

I must reserve the privilege of differing with the author in some of her deductions, which I cannot here enumerate and which do not bear directly upon this subject. I would like to have seen in this work more regarding environment, change of climate, etc., in conditions under consideration. I believe many lives might be saved and untold suffering prevented by carefully selecting a climate adapted to the individual case. The public, as well as physicians, should more thoroughly understand the benefits to be derived from climatic advantages. Different sections of our country offer various excellent conditions, but perhaps the Gulf coast of Florida, especially that portion known as the Tarpon Springs region, is unexcelled as a suitable home for catarrhal and consumptive patients. It has been appropriately named the "American Riviera" and possesses unquestioned excellencies.

In concluding this article, perhaps I can in no better manner impress upon all the importance of studying this encyclopædia than by asking the following questions, and suggesting portions of the work to be carefully read. Other parts, equally excellent, you will discover.

PERNICIOUS METHODS.	PRECOCIOUS CHILDREN.
What is said of pernicious methods of dressing by women, and its effects upon the lungs? Page 133.	Note carefully what is said regarding precocious children and the treatment that should be adopted regarding them? Page 139.

PRECOCIOUS CHILDREN (*continued*).

What is pneumativeness? Page 397.

To what does a deficiency of Pneumativeness tend? Page 397.

What are the signs of Pneumativeness as regards the nostrils, the nose, breadth of the face, brightness of the eye, color of the complexion and of the gums and lips? Condition of the skin? Appetite for food and drink? Condition of the chest? Page 398.

GESTURES, MOTIONS, ETC.

What is said as to the motions, gestures, expression, gait, and condition of the body of those well endowed with Pneumativeness? Page 398.

HARMONIOUS RELATION.

What three features of the individual are said to be in most harmonious relation and proportion where this function is largely developed? Page 398.

What is said of the palms of the hands and the finger-tips, color of the nails, etc., where this condition exists? Page 398.

FEATURES.

What is said to perform the most important office of the body, and what feature is said to be the facial register of these organs? Page 399.

To what feature, therefore, must we look primarily for our facial knowledge of Pneumativeness? Page 399.

PERNICIOUSNESS OF MOUTH-BREATHING.

Of what are mouth-breathing and the mouth being more or less open habitually a sign? Page 399.

What is said of persons who breathe through the mouth as compared with those who breathe deeply and respire profoundly? Read all of page 400.

LOVE OF LIFE.

Read carefully paragraph at foot of page 401, commencing "Love of life"; also, paragraph at top of page 403, "Great energy of mind and body."

What do large lungs create? Page 408.

What is said of bright, fresh color of the skin and eyes, and from what are they derived? Page 403.

ACUTENESS OF SCENT.

Read carefully pages 404 and 405, particularly paragraphs commencing "Keenness of sensation and activity" and "Acuteness of scent."

What should one do to remedy defective Pneumativeness? Page 413. Read carefully two first complete paragraphs.

What tendencies do very light, almost colorless, eyes and hair and colorless, pallid skin indicate? Page 424.

SANATIVENESS.

What is Sanativeness? Page 427.

What are its facial and bodily signs? Page 427.

What are the bodily signs of deficient Sanativeness? Page 827.

EXECUTIVENESS.

What advice given on page 568 as to how to increase the faculty of Executiveness in son or daughter valuable in building them up to resist Consumptive and Catarrhal tendencies?

What form of face reveals a pure mind and indicates development of lungs and liver? Page 756.

NARROW FACES.

What do narrowness of the face at the upper part of the cheek, flatness of the malar bones, narrow sharp nose, thin nostrils, hollow cheeks, and usually a thin lower lip indicate? Page 786.

NARROW FACES (*continued*).

What is said of the term of life of a person thus constitued? Page 786.

What is said of the mental ability of such a person? Page 786.

Read carefully last paragraph on page 833, continued on page 834.

NARROW CHEEKS.

Of what are extremely narrow cheeks the sign? Page 860.

Read carefully the article, "The Concave or Consumptive Cheek," page 860.

NOSES.

What is the chief characteristic of the nose where there is consumptive tendency? Page 873.

How does deep breathing aid in overcoming such a tendency? Page 873.

Read carefully the article entitled, "The Physiology of the Nose," commencing on page 872.

Shape of the nose of a consumptive. Page 873.

Also general remarks under the head page 878. In fact, the entire article upon "The Nose" can be read to good advantage, but those portions here mentioned should, by all means, be read with great care.

MOUTH.

When the gums show to a great extent when the mouth is in repose or while engaged in conversation, of what is it indicative? Page 1050.

How is this condition usually acquired? Page 1050.

STRENGTH AND WEAKNESS.

Read carefully signs of strength and weakness on pages 1089 to 1092, and the article entitled "The Nose," commencing on page 1094. Also article entitled "Face, Cheeks, and Lips." Page 1097.

What advice is given to those who inherit a feeble development of the Thorax? Page 74.

GOOD HEALTH.

What essentials to good health are mentioned on page 134?

VENTILATION.

What effect has defective ventilation upon the growing son or daughter? Page 139.

How is the breathing-power of the lungs indicated? Page 280.

VOICE.

What peculiarity of the voice indicates a Consumptive or Catarrhal tendency? Pages 832–835.

How can we decide upon the possibility of lung-power in our son or daughter? Page 1096.

INDICATIONS FOR CATARRH.

How does weakness or failing memory indicate catarrh? Page 1100.

ADDITIONAL QUESTIONS BY THE PUBLISHERS HAVING A DIRECT OR INDIRECT BEARING UPON THE FOREGOING.

GOOD DIGESTION.

Where is the principal sign for Good Digestion found, and what is the relation between good digestion and good health? Pages 165, 166.

Do the pleasurable emotions assist the secretion of Gastric Juice, and what effect has Grief on Digestion? Page 182.

How does the Liver affect Mental conditions, and, upon this point, how is the theory of the author corroborated by the opinion of Dr. John William Draper? Page 184.

GOOD DIGESTION (*continued*).

Why should every one, particularly the young, be thoroughly informed as to matters of Hygiene, etc.? Page 185.

How necessary is a sound Liver, and why does a diseased liver have a tendency to develop a condition favorable to Catarrh and Consumption? Page 189.

How is the theory that low formation of nose and long, slim necks indicate a Dyspeptic, Consumptive, or Catarrhal tendency proven by Comparative Physiology? Page 194.

BLONDES.

Why should children of light hair and eyes and blonde complexions be particularly guarded against the insidious tendencies to Consumption and Catarrh? Page 209.

LANGUAGE.

Does Language indicate the Physical condition? If so, how important, then, for the parent to note changes in Voice to detect Catarrhal and Consumptive tendencies? Page 225.

DEFECTS.

What will a study of the encyclopædia teach you in reference to the correction of defects and tendencies toward disease? Page 270.

VISCERAL ORGANS.

What will you learn by consulting and carefully reading the "Location of the Signs for the Visceral Organs"? Will it not aid you in looking for tendencies to Consumption and Catarrh in Son and Daughter? Page 277.

BRONCHIAL DISEASES.

What is one of the most predisposing causes of Bronchial and Lung affections in the young, and what hygienic measures will remedy this tendency? Page 401.

THE NOSE.

The Nose being the "Porch of Respiration," will not the condition of this organ indicate a tendency to Consumption or Catarrh? Pages 405, 406.

What relation does the sense of Smell bear to Taste? And if the "smelling sense" is deficient or morbid, does it not indicate tendency to throat or lung troubles? Page 407.

REMEDIES.

What means are at your command to remedy these defects and overcome these tendencies? Page 408.

SIGNS OF WEAKNESS.

How does the Face show Weakness and a tendency to Lung troubles, and what part does Color of skin play in such indication? Pages 1086, 1089.

How can we know the natural predisposition to diseases, and, knowing such tendency, will not Face and Form Reading aid us in applying a remedy? Page 1097.

How and in what way does the condition of the eyes indicate Consumptive or Catarrhal tendencies? Page 1103.

BEAUTY OF FACE AND FORM.

THE RELATIONS OF FACE AND FORM READING TO AN UNDERSTANDING OF THE BASIC PRINCIPLES OF BEAUTY IN FACE AND FORM.

By JOHN V. SHOEMAKER, A.M., M.D.,

Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia.

THE student of physiognomy must contemplate dull as well as animated countenances, plain as well as beautiful lineaments, cruel no less than benevolent faces. A habit of observing the peculiarities of the human face leads one to reflect upon the manner in which character is displayed in its forms and lines. The relation between mind, tastes, acquirements, character and expression, together with the effect which the face produces upon the thoughtful beholder, is most forcibly demonstrated if one has the opportunity of watching, year by year, the changes which slowly, but inevitably, stamp themselves upon the countenance. These alterations of form and expression depend upon the original disposition of the individual and the manner in which it has been modified by his surroundings.

It has been said that "Beauty is in the eye of the beholder." No absolute standard of beauty, as applied to the human being, can be formulated. The three essential attributes, however, are: Form, Color, and Expression. Form and Color depend principally upon good hygiene. Expression is the result of the operations of the mind. To thoughtful people, therefore, the countenance that is animated by intellect possesses a charm independent of the form, of the features and brilliancy of complexion. But, when the three characteristics which we have named are united in one person, every beholder at once yields tribute to the presence of beauty. A well-developed and rounded form and grace of motion should be associated with a fair face in order to produce the most commanding effect of personal beauty.

All these elements may be studied not only from a purely artistic point of view, but also with the object of understanding how they have originated, and of using them as a key by which we may acquaint ourselves with individual character. Physiognomy is not a mere exercise of intellectual acumen, but is an intensely practical subject, and is capable of being applied with advantage to the varying circumstances of active life. In this work the structure of the features and the contour of trunk and limbs are examined in relation to the proper functions of the various organs of the body, the activity of the intellect, the action of the passions and emotions, and the development of the moral faculties. This work demonstrates how intimately physical beauty is associated with bodily health, how strictly mental ability and energy depend upon the perfect performance of organic functions. The influence of mental and moral training upon the expression of the countenance is thoroughly recognized. Active respiration affords an ample supply of a vital element to the blood and tissues; a vigorous circulation conveys pure blood to all parts and promotes general nutrition; a normal performance of the functions of digestion, assimilation, and elimination maintains the quality of the blood; fresh air and physical exercise give tone and force to the muscular system and develop the frame-work of the body.

All these topics are elaborated in this work with the special object of showing the influence of each factor in producing a beautiful, animated, and expressive countenance, a pleasing and attractive figure. But, as physical health may co-exist with moral obliquity, the evil effects upon the face of the ignoble passions are also thoroughly traced. Biology and History are alike called upon to explain the meaning of the human face; and the result is a work which all may read with profit. As an illustration of the character and scope of the work, in this particular line of thought, the following series of questions is appended, the answers to which are to be found upon the pages indicated:—

What is the use of color to the human family, and what its method of action? Page 126.

What is the relation between color sense and pictorial art? Pages 126, 127.

What is the relation between heat, color, and activity? Page 127.

What is the relation between color and national characteristics? Page 127.

What is the relation between color, health, and strength? Page 128.

What is the influence of musical talent upon the conformation of the features? Pages 218 *et seq.*

What is the relation between expression of thought in words and in the features of the face? Page 22.

What is the effect of health upon character? Page 138.

How does the color of the face indicate the general integrity of the person? Page 306.

What effect has open-air exercise upon color, form, and beauty? Page 413.

What is the normal standard of form as regards beauty? Page 1085.

What is the relation between health of the bodily organs and beauty? Page 1086.

In what manner will digestion influence personal comeliness? Page 1089.

In what manner do features of the face reveal strength and beauty? Page 1093.

What are the chief indications of female beauty? Page 1092.

What are the principal characteristics of a beautiful face? Page 801.

What influence have the muscles of the face upon beauty? Page 754.

What is the relation of physical health and beauty of outline of face and body? Page 1085.

What will the form of the nose teach us as regards beauty, strength, and character? Pages 1094 *et seq.*

What is the relation between complexion, disposition, and beauty? Page 1099.

What bearing has the study of physiognomy upon morality and civilization? Page 1105.

The foregoing list of questions will serve to suggest the comprehensive character of this work. The author presents us with a very broad conception of the subject of physiognomy. She has spent many years in the scientific observation of the human face and form. She perceives, in this study, a wide field the cultivation of which may have an important influence upon the character, health, beauty, and history of mankind. This work teaches that the ability to read character by the signs of the face is but the beginning of the power and usefulness of face and form reading. This work is also a digest of all that has been written on the subject from Aristotle to the present day. The significance of the different features of the face has been sought with careful patience. The evolution of organs, the nature of their functions, and the reciprocal connections between the human organism and external nature are exemplified, and it is shown that a thorough study of physiognomy involves or leads to an acquaintance with the most important and practical of the modern physical sciences. It is needless to add that the questions which we have selected as examples might be indefinitely increased in number.

FACE AND FORM READING FOR THE DIAGNOSTICIAN.

The Discernible Facial and Bodily Signs of the Visceral Organs, Their Conditions of Development and of Health and Disease.

By JAMES K. YOUNG, M.D.

Professor Orthopedic Surgery, Philadelphia Polyclinic; Clinical Professor Orthopedic Surgery, Women's Medical College; Consulting Orthopedic Surgeon, Women's Hospital.

JAMES K. YOUNG, M.D.

Proposition No. 1.—Has Nature outward signs for each physical organ by the prominence or insignificance of which the normal condition of strength and development of the organ (of which it is a sign) can be divined? Or, can abnormal and pathological conditions, when they exist, be recognized?

Proposition No. 2.—Can the careful observer distinguish the sign for each organ or system, its normal qualities and development, and its condition in health or disease by a close and critical study of "The Encyclopædia of Face and Form Reading"?

I am much inclined to answer the above propositions affirmatively and to assert that the experienced physician knows quite intuitively the condition of the patient from the changes that disease impresses upon the countenance.

In the brief space allotted to me, let me say that while facial expression depends upon many organs and many varying factors, the expression of the eye is often the keynote in the physician's diagnosis, the whole constitution contributing to what may be termed the expression of the eye. Every physician knows the sunken eyeball of the consumptive, with its moist lustre and large pupil; the anxious, glistening eye of the victim of pneumonia; the listless, apathetic eye of the mother just following delivery.

Surely, if so much of the personality may be betrayed by the eye, how many signs of the other organs or systems may one contemplate in the vast study of human physiognomy in health and disease?

In conclusion, I would suggest that the reader closely scan the following references:—

How do the visceral organs shape or mold the facial features? Page 278.

What are the signs for the following organs, and where found?
- Glandular. Page 278
- Reproductive organs, lactation, etc. Pages 278, 279.
- Kidneys. Page 279
- Heart and lungs. Page 280.
- Liver, Page 282.
- Stomach. Page 282.
- Muscular System. Page 283.
- Osseous or Bony System. Page 284.
- Brain and Nervous System. Pages 285, 286.

What do light hair and eyes indicate? Page 424.

Of what is the projecting forehead indicative? Page 989.

How is the condition of the liver indicated; its facial signs, etc.? Pages 182, 183, 280.

How is the condition of the kidneys indicated; signs, etc.? Pages 158, 159.

What denotes enfeebled conditions of any feature or member? Pages 1085, 1086.

What denotes strength and harmonious development? Pages 1087, 1088

What are the signs of health and disease, strength and weakness? Read carefully pages 1085 to 1091.

How does the nose, chin, cheek, lips, and complexion show morbid condition? Pages 1097, 1098.

How does the face indicate the use of stimulants to an unhealthy excess? Pages 1102, 1103.

Besides these references the reader is referred to pages 753 and 754, where the opinion of Henry Gray, the distinguished anatomist, is briefly set forth; also to pages 528 and 755, where the views of Darwin and Sir Charles Bell on certain interesting subjects are succinctly stated. It is worthy of remark that the succeeding article on the subject of "The Physician" should be read in connection with the present brief exposition dealing with the diagnostic value of "Face and Form Reading."

THE PHYSICIAN.

WHAT PROFICIENCY IN FACE AND FORM READING CAN DO FOR THE PHYSICIAN, BOTH IN A SOCIAL AND PROFESSIONAL WAY.

By **JAMES K. YOUNG, M.D.**

Professor Orthopedic Surgery, Philadelphia Polyclinic; Clinical Professor Orthopedic Surgery, Women's Medical College; Consulting Orthopedic Surgeon, Women's Hospital.

ANDREW JACKSON once said, "Some people think that the office of the President of the United States consists in signing documents and shaking hands." Were this slightly paraphrased it might apply to some of the views entertained of a physician's aim in life.

Nothing could be more remote from living actuality. A physician is not a self-propelling textbook who exacts fees; but a sympathetic worker in one of the greatest fields of human endeavor, who, both by study and by a peculiar intuitive power, reads the story of suffering and affliction in the face and form of the subject before him.

The careful physician can read a great lesson in the expression of the eye, the color of the cheek, the fullness and redness of the lips, the poise of the head, etc. To the physician the face is the index of bodily health as surely as it is indicative of character to the physiognomist—"Vultus est index animi."

How proficient must be the medical attendant to interpret face and form reading when the patient is still carried in its mother's arms!

Contraction of the baby's brow is strongly indicative of pain in the head; sharpness of the nostrils, pain in the chest; drawing of the upper lips, some abdominal disturbance. Again, a baby born with dread tuberculosis has, as a rule, an oval face; fine, silky lashes; a transparent skin, prominent veins at the temples, and the hair on its head is soft and downy.

But more than this. A physician must possess many attributes and characteristics not always demanded in other professions.

He must be firm, yet kind; conscientious and hopeful, and is best fitted for his vocation if he be blessed with a sunny disposition that so often lightens the burden of the sufferer and sends a ray of hope into the bosom of him who is forlorn and depressed.

The subject is so voluminous that the following questions will fill a gap occasioned by the brevity of this article:—

HOSPITALITY.

Why should a physician be hospitable? Page 174.

What benefit will accrue to him from possessing the faculty of making and keeping friends? Pages 187, 188.

CAUTIOUSNESS AND OBSERVATION.

Why should the physician possess these two faculties? Pages 192, 200.

CONSCIENTIOUSNESS.

Why should this trait or faculty be of prime importance to the physician? Pages 302, 303.

What and where are its facial and bodily signs? Pages 303, 304.

FIRMNESS.

Why is it necessary to the physician, and what is its sign? Pages 312, 313.

In long-continued sickness what important part does it play? Page 316.

MIRTHFULNESS.

Of what use to the physician? Pages 376, 377.

To what does it conduce and what are its bodily signs? Pages 373-377.

FACIAL SIGNS.

What are the facial signs of a good physician? Page 435.

SECRETIVENESS.

Why should the physician possess this faculty? What is it, and what are its signs? Pages 469-474.

EXECUTIVENESS.

What is it, and what are its signs? Page 561.

Why should a physician possess this faculty, and how can he cultivate it? Pages 563-569.

FORCE.

Of what use is this faculty to the physician? Page 459.

To what extent is force necessary to the Promotion of Healing? (See article by Dr. John Cross.) Page 459.

ANALYSIS.

Why should a physician be possessed of the power of mental and physical analysis? Page 493.

Will it aid him in making a diagnosis of disease? Pages 493-495.

SELF-ESTEEM.

Why should a physician put a high estimate on his character and live up to it? Pages 436, 437, 441-445.

HOPE.

Why should a physician possess a large fund of this faculty? Pages 486, 488.

How does it sustain life and health? Page 491.

RESISTANCE.

Why is this faculty necessary to a physician? Pages 464-468.

MENTAL FACULTIES.

What mental faculties should a physician possess to be successful professionally and socially? Pages 1141-1146.

HUMAN NATURE.

Why should this study be cultivated by every physician? Page 525.

What and where are its facial and bodily signs? Page 526.

What are some expert opinions on the subject? Pages 528-531.

ADDITIONAL QUESTIONS ON THE VALUE OF "FACE AND FORM READING" TO THE PHYSICIAN.

MIND.

According to the views of the leading scientists of today, what is the office and function of the mind? Page vi of Preface.

As to the theory of "Diffusive Locale" of the mind, what eminent physicists and physicians support this view? Page vi of Preface.

From a physical and scientific standpoint, how do we know, and what do we know of Nature's method in the evolution of man, mentally and physically? Page 1188.

What was Locke's method of investigating the mind? Page 9.

Is not the study of man's mind ("The Highest Manifestation of Creative Energy") useful to the physician? See the Preface and Introduction.

From the standpoint of Advanced Medical Thought what bearings have Comparative Anatomy, Physiology and Embryology upon the Science of "Face and Form Reading"? Pages 1188, 1189.

BASIC PRINCIPLES.

What are the Physical Basic Principles of Physiognomy according to the author? Pages 7-11.

What are the deductions of Quatrefages and Dr. Maudsley, as to the Physical Basis of Mind? Page 10.

What is Cuvier's Law on the "Correlation of Organs"? Page 14.

Upon what is the Philosophy of Expression based? Page 27. Read Article by Dr. J. Buck.

What is the Physical theory of Mind, and why do such eminent men as Drs. G. H. Lewis, H. Maudsley, Alexander Bain and J. Lauder Lindsay advocate this theory? Pages 22-24.

PATHOLOGICAL AND PHYSIOLOGICAL.

Are Pathological mysteries unveiled by the Human Face? Page 157.

As to the contributory power of the Viscera to Mental Manifestations what are the opinions of Drs. Sir Charles Bell, G. H. Lewis, and others. Page 158.

In Mind and Body Dr. Henry Maudsley states that "persons of defective physical organization have not a strictly true moral sense." Is this not startling? Page 160.

Do the nerves possess "Instinctive Intelligence"? (Dr. Cutter's "Physiology," page 27.) Pages 166, 167.

What does Sir Astley Cooper say? Pages 166, 167.

Of what value are the Lips as indicators of Morbid Conditions of the Physical System? Page 170.

What do thick cheeks indicate? Page 170.

Where do the faculties obtain their vigor. Page 172.

What effect has diseased Liver on the Mind? Pages 182, 183.

What are the Facial Signs for Liver trouble? Pages 182, 183.

Drs. Luke, Budd, Philip, J. William Draper, and others hold the opinion that affections of the Liver have distinct Facial Signs. Why? Page 184.

CORRELATION OF FUNCTIONS.

What are the deductions of the author as to "Correlation of Function"? Page 191.

What relation does Speech bear to Pulsation or Heart Beat? Page 225.

Is this opinion borne out by facts? Page 225.

BRAIN.

Is the Brain the sole and exclusive seat of Mind, Intelligence, and all Mental Sensations? Page 236.

Do the experiments of Anatomists on the Brain disclose its capacity for thought? Pages 285, 286.

ENTHUSIASM.

What has Enthusiasm done to advance Medical and Surgical Knowledge? Page 267.

SIGNS FOR MENTAL FACULTIES.

What are the Mental Signs for Character and where located in the Human Face? Pages 287, 288. Study chart carefully.

COLOR.

Does color or tint reveal to any extent the Physical Condition of the System? Page 413.

What is understood by Color as applied to the complexion? Pages 413-416.

Why is Color a Physiological Constituent of Man? Page 419.

SANATIVENESS.

Are there any natural qualifications for the physician and surgeon? Page 427.

What is Sanativeness? Page 427.

What faculties, mental and physical, should the physician and surgeon possess? Page 435.

What the trained nurse or attendant upon the sick? Pages 435, 436.

The foregoing questions give merely a faint outline of the many thoughts that this volume will impart to one interested in questions physical, physiological and psychical. To the physician and to all those interested in a study of human physiognomy the references will prove invaluable.

THE PROGRESSIVE TEACHER.

THE USES OF FACE AND FORM READING TO THE PROGRESSIVE TEACHER.

By **EDWARD BROOKS, A.M.,**

Ex-Superintendent of Public Schools, Philadelphia, Pa.

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Ex-Superintendent of Public Schools, Philadelphia, Pa.

DURING many years' experience as an educator of youth and superintendent of schools, the question has frequently presented itself whether any method can be formulated whereby one can have a more intimate knowledge of his pupils and of the teachers under his supervision.

Such knowledge is of paramount importance. A superintendent or principal of a school should know whether a certain person is adapted mentally or physically to the training of children or the teaching of certain branches of knowledge; for success in teaching depends upon the power to set in activity, unfold and develop all the latent faculties and forces of the pupil; and only such teachers should be employed in the schools of the country.

In the recitation-room we meet with all grades of character and mental activity; the bold and fearless, the timid and diffident, the dull and phlegmatic, and the bright and energetic boy or girl who is interested in every kind of mental activity and ambitious to attain high standing among their fellows. To understand these differences and be able to adapt instruction and training in accordance with them are essential factors in the work of the teacher.

Whether form and heredity have anything to do with these contrasts in human character is a question often asked. If they have, how can one unravel the mystery and trace the intangible threads of influences that go to mold the mental habits and character? How can one learn to stimulate, unfold, develop, and harmonize the diverse elements of character, and lay the foundation for a noble manhood or a pure and beautiful womanhood? These and other similar questions often arise in the mind of the teacher and educator, and one who desires to attain high success in the vocation must deal with such questions and endeavor to solve them; for upon the solution of such problems all real progress in education must be based.

Germane to the solution of these problems, I would call attention to "The Encyclopædia of Face and Form Reading," a new work on the nature of the mind in relation to the physical system, recently published. It is a valuable work, and covers a wide scope of discussion relative to the general question of education and social development.

After a somewhat careful examination of the work, I do not hesitate to say that I am pleased to find that the author has thrown much light on the solution of the problem suggested. The "Encyclopædia" can be recommended to the perusal and careful consideration of the teachers of Philadelphia, and will at least stimulate and direct thought if it do not give final answers to the important questions suggested.

The publishers have prepared a list of questions in respect to the teacher's work which will assist in the examination of the treatise, and no doubt be of special interest to teachers. Many of these questions lie right along the path of a teacher's daily thought and occupation, and they will suggest lines of pedagogical inquiry even though the author may not always present a satisfactory solution of the questions; and, after all, the most useful function of any work is that it shall awaken thought in the minds of its readers, and stimulate to further reading and investigation.

THE TEACHER.

From a careful study and intelligent use of the Theory, Principles, Facts, and Truths of "Face and Form Reading" you can arrive at central and vital truths as to the mental and moral conditions of your pupils, know their peculiarities, their adaptability for certain studies, and so shape your methods and course as to render the control of pupils easier and better, more satisfactory to yourself, their parents or guardians, thus molding and building up the mental and moral character of the child to a higher level.

Please read Preface page v (bottom) as to object, purpose, etc., of this work.

QUESTIONS SHOWING THE USEFULNESS OF "THE ENCYCLOPÆDIA OF FACE AND FORM READING" TO THE TEACHER.

FACULTIES NEEDED BY TEACHERS.

What are the requisite qualities and faculties required in a progressive, practical teacher? This requires, as it were, a composite character. Please read Philologist, page 1173; Scientist, page 1163; Commander, page 1159; Clergyman, page 1136; Musical Composer, page 1136, and, in fact, all of Chapter V, from pages 1111 to 1184.

VEGETATIVE OR ASSIMILATIVE SYSTEM.

What is the Vegetative or Assimilative System? Page 67.

How can this system be made useful and normal? Page 69.

How can you distinguish this type among your scholars? Page 68.

What part does it play in the human economy? Page 70.

If a scholar is deficient, what are the signs? Page 70.

What faculties will be most prominent in a scholar in which this system predominates? Page 71.

How does this system blended with the others create health and happiness? Page 71.

THORACIC OR CHEST SYSTEM.

If some of your scholars are restless, eager, and apt, what system predominates? Page 73.

What and where are its signs? Page 73.

In what will they excel? Page 73.

What particular line of study would you suggest? Why? Page 73.

What kind of companions do children of this type usually make? Page 73.

What kind of a disposition does it engender in teacher and pupil? Page 73.

MUSCULAR SYSTEM.

For what kind of effort does it give ability? Page 80.

Why should the teacher be possessed of a fair share of this system? Page 80.

How can you distinguish scholars of this type? Page 75.

If yourself or scholars are deficient in this, how can you more thoroughly develop it and thus become healthier and better able to perform your duties, and how have your scholars better perform theirs? Page 83.

FORCE OF CHARACTER.

Why is it a prime essential in the teacher? Pages 78, 79.

How can you develop it? Pages 78, 79.

What are the deductions of Herbert Spencer on education? Carefully read foot of page 81.

Hence is it not important to you to endeavor to know yourself and those with whom you come in contact, and to analyze the various emotions common to mankind? Pages 82, 83.

How can you do this? Pages 82, 83.

OSSEOUS OR BONY SYSTEM.

What does this give to the scholar and to the teacher? Page 86.

How is it known? Page 85.

When the bones are round and small, what does it indicate? Page 86.

For what are those possessing largeness of bone noted? Page 91.

Where are the signs found? Page 91.

What is the remedy for excessive bone development? Page 92.

What for poor development? Page 92.

How can you best succeed with scholars of this type? Page 93.

BRAIN AND NERVOUS SYSTEM.

Upon what is all mental power based? Page 95.

What is the origin of thought? Page 95.

If you have a scholar with a small but well-formed head, what does it usually indicate? Page 98.

If a scholar is very active, well developed in Brain System, but the body is puny, how would you treat this scholar to get the best results? Page 98.

What will this establish? Page 99.

What faculties endow man with the power of abstract, mathematical reasoning, and how and why are these faculties useful to the teacher? Page 99.

How can you tell the quality of the brain in your scholars? Pages 112, 113.

What are the signs? Pages 112, 113.

If the eye of the scholar is particularly bright, what do you decide as to quality of mental power? Page 113.

You sometimes have a scholar who appears to be all nerves or "brains all over." How can you distinguish such? Page 114.

How should you treat them? Page 114.

If you have a scholar courageous, determined, and efficient, how is the hair an index? Page 119.

FORM.

Its relation to character: if you have a scholar of a round form, what character does it usually indicate? Page 120.

If squarely built, what? Page 120.

Forms of noses are indices of the character in children as well as in adults, Page 127.

If a scholar is angular or skewed in form, what does it indicate? Page 120.

How had you better treat such a one? Page 124.

COLOR.

Why and how is Color a potent factor indicating character? Page 125.

What is the local sign? Page 129.

If a scholar has a bright, fresh color, what does it usually indicate? Page 127.

PROPORTION.

How is the law of scientific proportion and beauty illustrated? Page 132.

How can disproportion be reduced? Page 134.

Cannot the teacher, by noting the scholars not developed in true proportion, formulate a plan to enable him or her to get better results and more thorough development? Page 136.

HEALTH.

What is the base of all really useful character? Page 137.

How should precocious scholars be treated? Page 139.

What do they need? Page 139.

"All work and no play," etc. Now, you are very careful to oversee your scholars at their tasks; should you not be as careful how they play? Page 141. (Read this paragraph very carefully.)

SUB-BASIC PRINCIPLES OF FACE AND FORM.

If you wish to read the character of your scholars or your friends, how can you do it? Page 143.

Will you kindly read bottom of page 146?

We will now pass to the consideration of the signs for and locality of the Mental Faculties.

MIND.

What is Mind? Page 12.

The office of the mind is threefold. Upon what are these three departments founded? Page 151.

Properly read, the human face will reveal what? Page 151.

HOPE.

What faculty should be manifested in a teacher who really loves the work, and where is its sign? Page 179.

If you notice a scholar full of Hope or possess this yourself, how can you distinguish it, and where is its sign? Pages 182, 183.

FRIENDSHIP.

What are the signs for Friendship? Pages 185, 186.

A very useful trait. How can you cultivate and develop it in your scholars? Page 187.

EXECUTIVENESS.

You can judge of this faculty by carefully watching your scholars, friends, and those with whom you come in daily contact. Where is this sign? Page 194.

SELF-WILL.

What are the indications for a strong Will? Page 195.

Which in excess is called Self-will? Page 195.

Properly balanced, why is this a precious inheritance? Page 196.

If this faculty is deficient and the person is of a weak, irresolate will, how can it be best remedied? Page 197.

If in excess, how? Page 197.

CREDENCIVENESS.

What are its signs? Page 197.

What is it? Page 197.

How can the teacher render it useful and subordinate it to Observation and other useful faculties? Page 97.

What and where are its signs? Page 200.

OBSERVATION.

This useful faculty in pupil and teacher is very essential. If deficient, how can it be cultivated? Page 199.

MEMORY.

If you have a pupil whose Memory is poor, what means would you employ to remedy it? Pages 202, 203.

Where is its sign? Page 200.

Upon what does it depend? Page 203.

LOCALITY AND COLOR.

This faculty with Color is usually possessed in a normal quantity by the young. How can you indicate them? Page 208.

MENTAL AND PHYSICAL ORDER.

Where and what are its signs? Page 209.

Why important to teacher and to pupil? Page 210.

To what is it adapted? Page 210.

CALCULATION.

In what formation is it usually found the best? Page 213.

How can it be cultivated if deficient? Page 213.

MUSIC.

What are the indications of the faculty for Music? Pages 677, 678.

Why should it be encouraged and developed in schools? Pages 218, 679.

What is its tendency? Page 679.

What have geometrical measurements and Form to do with Music? Page 218.

LANGUAGE.

Why should a teacher endeavor to cultivate a love of pure, free, and fluent Language in the scholar? Page 225.

Is it any indication of intellectual powers? Page 225.

What and where are its signs? Page 223.

What is Language? Page 225. (Read all of page.)

COMPARISON, CAUSALITY, AND REASON.

What are their signs? Page 228.

Why should a teacher have a good share of these faculties, and why should the teacher endeavor to develop them in the scholar? Pages 227-231.

To know more we must be more. Why? Page 230.

INTUITION.

What is it? Page 234.

Please examine carefully pages 236 and 237.

What is the basis of exhibitions of anger or temper? Page 257.

What diseases does it often cause? Page 257.

Enthusiasm moves the world. Should not the teacher have a large fund, and, if so, why? Page 258.

Can defects of organization be remedied? Page 270.

Please examine charts, pages 273, 275, 277, 288.

What is the most salient feature of the face? Page 289.

What are its indications? Page 289.

Read Sir Thomas Brown, M.D., on "Face and Form Reading," top of page 297.

Why is it proper and womanly for a woman to cultivate a logical mind? Page 299.

GESTURES.

Of what use are gestures? Page 299.

What do they mean? Page 300.

How can you interpret them? Pages 299, 300.

Why are women better fitted, by nature, as teachers of the young? Pages 372, 373. (Read carefully.)

APPROBATIVENESS.

What will often prove a powerful incentive to better conduct in a scholar? Page 385.

How can this faculty be developed? Page 385.

PNEUMATIVENESS.

Why and how is deep breathing in close relationship with high thinking and high teaching? Page 400.

How can you cultivate it? Page 400.

Read G. H. Lewis and others on "Mind." Page 12.

Will you kindly read Victor Cousin on "The Beautiful"? Page 59.

Will you read Professor Le Conte on "The Advance of Science"? Page 3.

How will a thorough knowledge of this work, "Face and Form Reading," aid you in your work? Page vii (Introduction).

CONCLUSION.

And in conclusion, dear Teacher, can you not know more of self, your scholars, your friends, increase your usefulness, add to your happiness, and round out and assist others in forming a pure and noble character, by reading and using the suggestions in "Face and Form Reading"?

Will you not try?

TEACHER AND PUPIL.

Value of Face and Form Reading in the Management of Refractory and Insubordinate Pupils and in the Arrangement of Special Courses for the Backward and Abnormal.

By H. WINFIELD WRIGHT, LL.B.

Director, Commercial Department, Strayer's Business College, Philadelphia, Pa.

H. WINFIELD WRIGHT, LL.B.

The teacher's calling, ranking now in importance with the other professions, has made rapid and material advances during the past half-century. During this period we have witnessed the resurrection of psychological tenets and pedagogical creeds, older than Aristotle. Huxley, Darwin, Tolstoy, Schopenhaur, Herbert Spencer, Sully, and Bain, with their various followers, have transmitted to us these age-incrusted theories clothed in modern garb, transformed to harmonize with the stage-setting of the present.

By studying the results of these old masters, who taught intuitively, the above-mentioned transmitters were able to evolve the precepts of our modern pedagogy. The fact that pedagogy and psychology are akin was soon accepted. Pedagogy, as comprising only a set of methods or rules of procedure for the shaping of the infantile mind, was soon seen to be crude and insufficient. The joining of the study of the mind, psychology, to the study of methods, to enable the teacher to take up, in the most natural order, the development of the mental faculties, such as perception, conception, judgment, imagination, memory, etc., was inevitable.

Still, however, the science of imparting knowledge was little better than guesswork. Those who achieved marked success in this, the most necessary of the professions, still taught intuitively. They were often called born teachers, etc. All others, to a greater or a less degree, were groping in Stygian darkness. There was no certain and scientific means of gaining a pre-knowledge of those psychological or physiological forces which create all mental activities. This knowledge was wanted. It came. The author of this book has satisfied this long-felt demand.

Physiognomy, or Face and Form Reading, has come to take its place alongside Pedagogy and Psychology. With these three considered in juxtaposition, we have the trinity of all educational endeavor. We can now, with the pre-knowledge so easily available, go about our work logically, scientifically, almost unerringly, no matter whether we are working toward the reformation of refractory students, or are engaged in shaping their school courses and incidentally their life careers.

The writer, therefore, most gladly recommends a careful study of this volume to his co-laborers, being convinced that the knowledge thus gained will fill a long-standing want, giving, as it does, a lucid and correct insight into the temperament and character of pupils, enabling instructors to get real, tangible results, and at the same time to lighten their labors.

The following list of topics will help teachers to arrive at vital truths, enabling them to mold and build up the mental and moral character of the student to a higher level.

The annexed topics with pages indicated will facilitate study.

1. The Human Face, the index of all Nature. Page 7.
2. Precocious Children, Sensitive and Nervous Children. Page 137.
3. If a student is deficient, what are the signs? Page 70.
4. What are the deductions of Herbert Spencer on education? Page 81.
5. What is the origin of thought? Page 95.
6. If a pupil is very active, well developed in brain system, but the body is puny, how would you treat that pupil to get the best results? Page 98.
7. The Brain not the Sole Seat of Mind. Page 158.
8. Hospitality, Love of Home, Patriotism. Page 169.
9. Memory and Locality. Page 200.
10. Anger, Will, and Temper. Page 239.
11. What is the basis of exhibition of anger or temper? Page 257.
12. Logical Reasoning in Children. Page 227.
13. What will often prove a powerful incentive to better conduct in a pupil? Page 385.
14. Why and how is deep breathing in close relationship with high thinking and high teaching? Page 400.

15. Language and Music. Pages 652-665.
16. Order: Mental and Physical. Page 695.
17 Intuition. Page 737.
18. The Voice. Page 825.
19. The Method to Pursue in Reading Character. Page 1111.

The above list might be extended to almost any length. The writer is convinced, however, that, as soon as the above topics have been studied by his fellow-teachers, they will immediately read the work carefully from cover to cover, and assimilate it.

THE EMPLOYER AND EMPLOYÉ.

The Practical Value of Face and Form Reading to Employers.

By **HAMILTON DISSTON**, Esq.,

Of H. Disston's Sons, Keystone Saw and Tool Works, Philadelphia, Pa.

Hamilton Disston

THERE is no question in my mind that "Face and Form Reading," often, perhaps, unconsciously done, is an accomplishment of all successful employers. No better evidence of this is needed than the fact that seldom, and then only on the strength of unquestioned recommendations, does the judicious employer fill an important position without a *personal interview.* Why is this? It is in order that he can *observe and read* the applicant, can note personal appearance, color, eyes, expression, form, gesture, step, voice,—all that enters into "Face and Form Reading,"—and from observation of this combination the decision is formed. That all these features are the signs of human character—not only physical and mental, but moral also—no intelligent person can doubt. They have been so recognized in all ages, and possess to no class a greater value than to the employer and organizer. The employer who can read and recognize these signs, who can properly estimate and weigh the various combinations and traits of which Nature has furnished the outward signs, has the most important of the qualifications required for great success. A close study of men prominent in any line of life will show this trait strong in each. Man is not great as an *individual;* but when he possesses the *faculty of always discerning* the proper man for each place, of making human combinations, each unit of which is the proper unit for its respective situation, it is then that he becomes a mighty factor in society.

I should like to see all employers (except my *competitors*) versed in this useful and fascinating science, and believe the result would be still pleasanter relations between labor and capital, and improved conditions for both.

The following questions will, if the encyclopædia is studied sufficiently to find out the answers, call attention to some of the portions of which I particularly approve:—

MUSCULAR SYSTEM.

Should you have occasion to employ a mechanic, engineer, or a man for any special work, requiring exactness, nicety, and symmetry, why would you employ one of good chest development? Page 73.

What kind of ability does a good share of the Muscular System usually indicate? If deficient, how can it be developed? Page 80.

METHODS.

If you wish to read the character or acquaint yourself with the faculties of an employé, what method would you pursue? Pages 1114, 1115.

If an enthusiastic person should come to you with some scheme or invention promising great things, and ask your help to push it through, can you tell if he is practical or a mere dreamer or theorist? How? Page 1104.

NOSES.

Should you require a mechanic in a particular line of duty, requiring activity, quick perception, and of good executive ability, would you choose one with narrow, pinched nostrils? If not, why not? Pages 1095, 1096.

Is there any way you can tell an avaricious or dishonest employé from shape or contour of nose? Page 935.

What type of nose indicates the mechanic? Pages 932, 933.

If an employé possesses large, wide nostrils, bright eyes, fresh color, what does it indicate? Anything more than good health? Page 398.

What kind of character and ability does this system develop? Page 403.

VOICE.

You wish a whole-souled, hearty, active, and honest man in your business as book-keeper, clerk, master-mechanic, etc.; what would the intonation of voice reveal as to his physical and mental condition? Why? Pages 828–838.

COMPARISON AND CAUSALITY.

You have a particular line of work, requiring a first-class workman, with Comparison highly developed. How can you tell who possesses it? What and where are its signs? Pages 726, 727.

You are a mechanic or inventor or both; you have a crude idea of a machine which, in your opinion, will revolutionize old methods, and you wish to employ a first-class man to assist you in developing and carrying out these ideas. How can you tell if the applicant possesses the necessary qualities? Page 716.

What are the signs of Causality? Page 717.

CALCULATION AND ORDER.

What kind of men do we usually find possessing high Order, and how is Order allied to Mechanics? Page 696.

CALCULATION AND ORDER (*continued*).

In the higher mechanics, such as engine-building, manufacturing machine-tools, and instruments and machines of precision, a large amount of Calculation of a high grade is necessary in the employé. What are the facial and bodily signs indicating this faculty? Page 706.

High-grade mechanics constantly use the sense or faculty of Weight. How is it useful in setting up and running machinery, and what are the signs for it? Where? Pages 643–648.

OBSERVATION AND CONTINUITY.

What incentive to invention is Observation? Why? Its signs? Pages 618–620.

Why are round persons who are broad between the eyes better adapted for superintendents, foremen, or bosses in large industrial establishments than others? Page 605.

A machine is to be constructed or a certain work performed requiring Continuity of thought and purpose to work out to a successful issue certain ideas; now, in choosing an employé for this special work, how would you tell if he was fitted for the task? Page 574, second paragraph.

EXECUTIVENESS AND CONSTRUCTIVENESS.

How can you tell if an employé possesses the requisite amount of Executiveness to forward your interests? What is its sign? Page 561.

What combination with large Constructiveness produces such men as Roebling, Watt, Fulton, Edison, and Ericsson. Page 552.

HUMAN NATURE AND ANALYSIS.

Why is a good share of Human Nature needed in the employer? Why in the employé? What is its scope, and how is it manifested? Pages 527, 528.

How does keen Analysis assist the manufacturer, inventor, mechanic, etc., in times when he must rely solely on self? How does it aid the judgment. Pages 493, 494, 495, 498.

FORCE AND SELF-ESTEEM.

A man of Force, what is it? What does it create? What use is it in overcoming obstacles and carrying forward great engineering and business enterprises. Page 455.

Why should employers and employés as well have a good amount of Self-esteem? How essential in managers, superintendents, etc. Pages 430, 441, 442.

FIRMNESS.

What important part does Firmness play in the human economy? Page 316. Its most decisive sign? Page 312. Why essential in the higher grade of employés? Page 312.

ECONOMY.

In order that you may reach the maximum of production at the minimum of cost, it is necessary the foremen, superintendents, and employés should possess the trait of Economy. How can you tell easily if employés possess it? Pages 316, 319, 320.

There are many practical, vital questions which "Face and Form Reading" answers cogently, logically, and convincingly. Among the portions of the work of special interest to the employer, I particularly recommend the following pages: 267–289, 525–534, 1085–1110, 1114, 1115, 1116, 1119, 1158, 1183, 1184, etc.

ADDITIONAL QUESTIONS BY THE PUBLISHERS, SHOWING THE VALUE OF FACE AND FORM READING TO THE INVENTOR, MECHANIC, ENGINEER, ETC.

The following questions by the publishers will enable you to grasp the intents and purposes of this book, and give you some idea of its practical usefulness to *all grades* of persons in *every walk* of life, more particularly the Mechanic who wishes to advance and take front rank among the Industrial forces of this Electric Century.

The publishers commend the work to you for its eminent practicality, believing that a knowledge of yourself in particular, and mankind in general, will redound to your credit financially and socially.

If so, our mission is accomplished.

FACULTIES.

What Physical System and Mental Faculties are the most conducive to the success of the Inventor, Mechanic, etc. Page 1156.

Does not the success of Edison, Howe, Morse, McCormick, etc., prove this? Page 1156.

How are the Mental Faculties and the Character developed? Page 1158.

What Physical Systems create Form and Character? Page 61.

What kind of faculty is necessary for one engaged in the manufacture, setting up, and tuning of Musical Instruments, and what does the Ear indicate as to the possession of this faculty? Pages 1026, 1027.

NOSES.

What type of nose is called the Mechanical? Pages 932, 933.

LIPS.

What indication does the curve, formation, etc., of the Upper Lip give us as to the possession of the Imitative ability, and what has Imitation to do with Mechanical ability? Page 819.

INTUITION.

What benefit is this faculty to the Mechanic, etc.? How can it be cultivated? Page 737.

COMPARISON.

To what does this faculty lead, and why is it of importance to the Mechanic, Inventor, etc.? Pages 727–732.

CAUSALITY.

What are the relations existing between Causality and Practicality? Pages 721.

What kind of study will develop this faculty in the Mechanic, etc., and why should such methods of reasoning be encouraged? Pages 720–726.

Why should Inventors especially cultivate the faculty of reasoning from effect to cause? Page 721.

CALCULATION.

In all branches of Mechanics it is absolutely essential to advancement or progress that Calculation of a high order be possessed. What are the signs showing its possession, and how can this faculty be cultivated? Pages 706–712.

ORDER.

Why are some Mechanics very neat and orderly, and why some slovenly, in work, habits, etc.? Page 696.

How can Order and System be cultivated? Page 700.

TIME.

Why is this in connection with Order very essential to the Mechanic? Page 690.

LOCALITY.

Why should this faculty be cultivated by the active Mechanic, and how can it be so cultivated as to aid him? Pages 635–640.

OBSERVATION.

To the Architect, Engineer, and High-Grade Mechanic this trait is an important one, aiding him to seize upon important facts seen in his daily intercourse with the world and adopting them to use in his special line. How can this faculty be cultivated, and what aid and incentive to Invention is it? Pages 618–620.

FORM AND SIZE.

Persons of round formation, broad between the eyes, usually make the best Superintendents, Foremen, Bosses, etc. Why? Page 605.

Two important faculties of everyday use to the Inventor, Machinist, and Mechanics of all kinds. Deficiency in these faculties incapacitates one for many mechanical pursuits, hence the necessity for thorough development. Of what importance, and why? Pages 605–615.

CONSTRUCTIVENESS.

This faculty is one of the most important to the Architect and Builder as well as the Millwright and Constructive Machinist, and should be cultivated to the highest possible degree. What will aid in its cultivation? Page 545.

Why were such men as Roebling, Watt, Fulton, Ericsson, and others so successful as Inventors? Page 552.

IDEALITY.

The Higher grade of Mechanics, Architects, Inventors, Builders, etc., need this faculty. Why? Pages 515–523.

HOPE.

All grades of Industrial workers need Hope. What is its capacity as a sustainer under adverse circumstances and in sickness? Pages 486–491.

THE CLERGY.

How will a Study of Face and Form Reading Aid the Pastor in Church Organization and Church Development?

By GEORGE A. PELTZ, D.D.,

Associate Pastor of The Temple, Broad and Berks Streets, Philadelphia.

"Whenever I have an important business interview on hand, I face my man to the light and myself to the darkness." So said one of Philadelphia's shrewdest business men, in a recent interview. Why did he face his man to the light? Because he knew that the man's face would tell much that his lips would leave untold. The form of the face, as well as its many phases, and, indeed, the form of the entire body and its various movements, all are significant of the inner man, whose visibility and tangibility they constitute.

Just how far face and form indicate personality may be debatable; but no close observer of men doubts that they are of large value; indeed, most of the conclusions in "The Encyclopædia of Face and Form Reading" may be unhesitatingly accepted as substantially correct.

That knowledge and skill in these lines would abundantly aid every clergyman is beyond question. It is recorded of our Lord himself that he "knew all men, and needed not that any should testify of man: for he knew what was in man" (John 2: 24, 25). In this respect, as in many others, his servants have need to strive to be like him; and as they approach him in character, they will also approximate more closely to his success.

In the phenomenal work at The Temple, the accurate estimating and fitting employment of men have had much to do. The Rev. Mr. Conwell, the leader of that great work, excels in his appreciation of just what the people need at any given moment; also of the most direct way to meet that want. Then comes into play his ability to select leaders and organize measures, and, by his rare and almost unerring capacity here, he has won many of his most conspicuous achievements. He seldom fails to select the much-desired "right man," and to get him into "the right place." A quick and correct estimate of men, whether from face or figure, expression or action, is immensely valuable to every clergyman, as to every other man who is expected to meet and to mold his fellows; and what has proved to be good in one field is worthy of careful trial elsewhere.

It is a matter of congratulation that the contents of this elaborate work on "Face and Form Reading" have been set forth fully in a well-digested Table of Contents and Index; but a special series of questions also has been prepared for clergymen, whereby they are put directly on the road to those topics they most need to consider. Without passing judgment on the book as a whole, or assuming to indorse all its positions, one is wholly safe in pronouncing it a most helpful volume, and commending it to his fellow-clergymen.

HEALTH AND HARMONIOUS DEVELOPMENT.

Essential to the clergy. How best attained? Pages 131–137.

"Meus Sane in Corpora Sano." What is necessary for a sound mind? Page 94.

What are the Normal factors in Form and Being in Nature, Science, and Art? Page 57.

APPROBATIVENESS.

Of what use? When desirable? Its tendency? Page 378.

ENTHUSIASM.

Can we analyze it? What is necessary to become enthusiastic? Page 267.

LOVE.

"The Greatest Thing in the World." What is it? Upon what does it depend? Page 242.

Manly men and womanly women. What makes? Page 242.

KNOWLEDGE.

What is the most important to man, and how should this interest the clergy? Pages 182–185.

FORCE AND SELF-ESTEEM.

If you are deficient, how can you develop this trait? Page 461.

Why should the clergyman possess Self-esteem? What will it lend to the character? Pages 437–462.

What effect will it have upon preaching? Page 461.

DEEP BREATHING AND ENERGY.

What relation does deep breathing bear to Energy, physical and mental? Page 403.

How can deep breathing be developed and weak throat and lungs made stronger? Pages 400, 401.

FRIENDSHIP AND HOSPITALITY.

Two strong, essential traits. How do they add to your usefulness and extend your influence? Pages 385–397.

IDEALITY AND SUBLIMITY.

Why should these faculties be possessed by the clergy? Page 514.

How does it aid in Sermon-writing, Preaching, and Lecturing? Pages 506–518.

HOPE.

How is it useful to the Clergy, and how to every one in health and also in disease? Pages 488–491.

What kind of a force is it? If deficient, how can it be obtained? Page 491.

RESISTANCE.

Why should a clergyman possess this faculty? To what does it tend? Pages 463–469.

What does a study of the Faces and Forms of talented divines, etc., show? Page 458.

EXECUTIVENESS.

A Pastor, Sunday-School Superintendent, and others having any authority in church work should possess this faculty. How can you tell if possessed? Pages 561–564.

VENERATION.

Should be a faculty in every pastor. How is it indicated? Pages 553–558.

How can you develop it if deficient, and what has logical reasoning to do with it? Page 559.

Where is the highest form of religion exhibited, and what are the relations between Veneration and Virtue? Page 560.

CONSTRUCTIVENESS.

Upon this faculty depends the power to build up a logical discourse. Why? Page 545.

How can you develop if weak? Page 544.

HUMAN NATURE.

This faculty is of vast importance. How do you know if you possess it, and how can you acquire it? Page 525.

MEMORY.

Upon what dependent? What causes its impairment, and how can it be cultivated? Pages 625–627.

OBSERVATION.

A desirable faculty to the minister. How can a deficiency be supplied? How does it tend to render a minister aid in preaching, lecturing, etc? Pages 618, 621.

SELF-WILL.

If not in excess, very desirable. Why so to the minister? Page 575.

LANGUAGE AND ELOQUENCE.

What is necessary in order to converse well? How can one become eloquent? Page 661.

GESTURES.

Have they a meaning? If so, what? Pages 759–761.

INTUITION.

How can this faculty be made to subserve the interests of the clergyman? Page 746.

Mozart's Self-analysis is an example. See pages 742, 743.

COMPARISON AND CAUSALITY.

Why should a clergyman possess a large fund of Comparison? Pages 732–735.

Why possess the faculty of Causality? Page 722.

What relation does Causality bear to Progress? And can Causality be cultivated? Pages 720, 721.

EYES, NOSE, MOUTH, AND LIPS.

What does the form and expression of the Eye indicate? Page 986 *et seq.*

How does the Nose indicate character? Pages 866–936

How much is revealed and concealed by the Mouth? Pages 837–848.

Does the contraction, expansion, compression, etc., of the Lips indicate mental condition? Pages 795–824.

NECKS, EARS, AND HAIR.

Does the poise of the head, the attitude of the neck, etc., have any meaning? Pages 1057–1066.

Various forms of ears greet us, do these varieties each have a different meaning? Pages 1015–1032.

What does coarse, stubborn hair mean? Has hair, its color, texture, etc., any signification in reading character or ability? Pages 997–1012.

GENERAL FITNESS, ETC.

How can you know your parishioners so as to be able to call out all latent powers and know their fitness for their duties? Pages 1114, 1115.

How can you tell the impostor? Pages 1106–1109.

A clergyman is endeavoring to fit his congregation to lead better lives here and hereafter. Why should he be a student of Physiognomy, and what will aid him? Page 1154.

USES.

To what uses can a clergyman put a practical knowledge of Face and Form Reading? Pages 1182–1184.

PHYSICAL AND MENTAL SYSTEMS.

What physical systems are required by a clergyman? Pages 1151, 1152.

What are the mental faculties essential to a successful ministry? Pages 1153, 1154.

LAWYER AND COUNSELOR.

THE AID "THE ENCYCLOPÆDIA OF FACE AND FORM READING" MAY BE MADE TO RENDER THOSE INTERESTED IN LEGAL, JUDICIAL, AND DELIBERATIVE PROFESSIONS.

By HON. JUDGE JOHN L. KINSEY,
PHILADELPHIA, PA.

HON. JUDGE JOHN L. KINSEY

WHEN the second edition of your unusual, thorough, and interesting book appeared a certain portion of the introductory matter was written by me. Now, when a new issue is contemplated, I do not see that I can make any valuable additions to the former article, it seeming to cover, in general comment, in condensed form, a suggestion as far as a lawyer's relations to the science of physiognomy are concerned.

My judgment now is substantially the same as at the time of the earlier preface. I can only reiterate that knowledge of the science of physiognomy would be most useful to one whose business leads him into dealing with human beings, the characters and acts of whom are the data with which he has to do.

In this restless age, which is seeking a cause for every effect, relating to the inner or outer nature of man, as may be instanced by the great progress made in the subjects of psychology and physiology, no doubt physiognomy will likewise, in a short time, make great advances. Lavater attempted to formulate physiognomy into a science, for the first time, in 1807. From that time little or nothing, save the classic production of Charles Bell, was done for this subject, until Darwin, within our own day, gave the matter an impetus. Mrs. Stanton's work has treated this theme with the most extreme minuteness and exhaustive particularity, and to an extent that has never before been approximated. In this respect it is quite entertaining and suggestive of possibilities which may be later realized. It has a practical utility and many hints may be obtained from it which might be of great convenience and service to us in our relations to our fellow-beings.

The student may find, however, that some of the generalizations appear too broad and seem not warranted because of the limited number of observations made. A comprehensive rule is sometimes laid down from the contemplation of too few instances. Every one of us is necessarily more or less a physiognomist, and has unconsciously become so through experience with men, and we have acquired certain rules by which we judge from appearances. Therefore, any book which will aid us to estimate accurately the character or the mental mood of the person from the expression of the face, would be of incalculable value. Especially is this true of lawyers. Suitors, jurors, witnesses, and judges daily pass under their inspection, and to their appearance and expression, as it varies, they adapt their action or argument.

Take, for instance, the argument of counsel to a jury. There the contest between mind and mind is more keen, intense, and vivid than can be found in any other debate. Throughout the argument the speaker scans momently the face of each juror, noting the posture of his body, expression of the eye, knitting of the eyebrows, particularly the change and quiver of muscles about the mouth, the turn of the head, movement of hand or foot; in fact, any change which, as he proceeds with his argument, leads him into a contemplative train of thought as to what is the condition of mind of his auditor which leads to the movement observed. Therefore, when physiognomy is able to give us a reliable rule by which we can instantly interpret the meaning of any such movement, it will give us the secret to aid greatly the more successful practice of our profession.

It will not be amiss for any lawyer to read this work, as he will find it not only entertaining, but containing much that the results of his own observation can corroborate.

The extensive experience of years of active service in the profession has afforded many particular incidents along the lines discussed in this book, but to cite them would 'inappropriately overload this introduction to which you have invited me.

In now reconsidering the book, I should pronounce it undoubtedly the most comprehensive that has ever treated of this theme, and I do not hesitate to say that it makes all others, even the great Lavater himself, seem relatively inferior.

One admonition, however, to students of this subject may be deemed appropriate, that not always can one rely wholly upon facial *expression*. A *transient* phase of emotion as to certain passing events or thoughts may mislead us as to sincerity; indeed, those more crafty in this respect often possess ability to deceive totally, by *simulated expression*, for, as Shakespeare, with his masterdom of utterance, puts into the mouth of Duncan, discovering the perfidy of Cawdor, "There's no art to find the *mind's* construction in the face. He was a gentleman on whom I built an absolute trust."

Enthusiastic people move the world. To be eminently successful at the bar you must be brimful of enthusiasm. Can you not, from a careful study of the following questions and answers, see how *vital* a knowledge and use of "Face and Form Reading" will be to you? Will it not *broaden* your vision and *enlarge* your ideas as to *man*, his *character*, his *failings*, his *capabilities*, the *means* for his *mental*, *moral*, and *physical improvement*, and *teach* you to *know* and *appreciate* your fellow-man at his true worth? The answer we leave to your own convictions.

FACULTIES NEEDED.

What *Physical Systems* and what *Mental Faculties* should be most prominent in a lawyer? Why? Pages 1154–1156.

Why should a lawyer make a careful study of the Laws, Principles, and Facts of "Face and Form Reading"? Page 1183.

How will such knowledge, practically applied, aid him in arriving at *central truths* in the *examination* of *witnesses*? Pages 1183, 1184.

What will scientific "Face and Form Reading" teach you? Page 1113.

THE THOROUGH-BRED.

If a client wishes to retain you as his counsel and professes to be a *thoroughly refined person*, how can you tell if this person is *thoroughbred*? Pages 1108, 1109.

NECKS.

Suppose you are examining a witness who has a *long*, *shriveled neck stretching far out*, what would you think was the leading trait of character of that person? Page 1066.

Suppose a lady client who *carries her head high* has a habit of *tossing* and *nodding* her *head forward* and *sideways* while in conversation with you, what would this indicate? Page 1065.

Will you kindly read the article on "*Necks*"? Page 1057.

SMILES AND LAUGHTER.

What do they indicate? Can you analyze them? How? Pages 1054–1056.

A client comes to you for advice (probably a stranger), you say something that causes him to *laugh*, suppose it is of a *chuckling* or *suppressed* nature, what does it indicate? Page 1056.

We here give you a *wrinkle*—please take it in the spirit intended—do *wrinkles* reveal character? Did you ever think of them as indicative of mental condition? If not, why not? Can they be read? Pages 1034–1042.

Just observe a middle-aged lawyer (a friend) who has achieved an enviable reputation, and look for *wrinkles under chin to the side;* then compare with figure 313 and see if our analysis, page 1036, is not correct.

HEAD.

Does *size* of head indicate *great talent?* If not, why not Page 994.

EYEBROWS.

Eyebrows indicative of character,—how? Read article, pages 969–985.

EYES.

Watch the *eyes* of the criminal classes with whom you occasionally come in contact, and what do you read therein recorded? Why? Page 967.

What is a *magnetic eye?* Have you ever seen it? Page 963.

What a wonderful organ is the *eye!* How much it expresses! Can this expression be read? How? Will you carefully read pages 937–968.

NOSES.

Are Noses very significant in studying character? Why? Page 928.

Can you tell if a witness (or would-be client) is *honest* or *dishonest* by carefully noting the *length*, *breadth*, and *curvature* of the *nose?* If so, how? Page 929.

How can you tell if a lawyer or counselor is talented in *debate* or of an *argumentative mind?* Pages 922, 923.

Of all classes of the world's thinkers and workers *you* probably need an accurate knowledge of "Face and Form Reading" more than any other. Why? Page 881.

LOCAL SIGNS.

On page 881 you will find the *Local Signs* for the *Mental Faculties.* Can you not gain some knowledge of the *underlying principles* of this science from a careful study of this chart? Please turn to it. Page 881.

Many of the criminal classes are born so. Can you find any signs in the face to inform you of this fact? Where? Page 862.

How do *mouths* and their *expression* indicate character? Page 837.

What will observation and comparison of a collection of *photographs* of *notorious criminals* show? Page 847.

Please read pages 837–848.

VOICE.

How does the voice often reveal character? Page 837.

How do *words* reveal the *intellectual* state? Page 833.

If a person approaches you with a *voice* of *excessive softness*, look out for him. Why? Page 832.

Suppose a person addresses you in a *rich*, *full*, *rounded voice.* What does this indicate? Why? Page 828.

LIPS.

Their motion in expression are landmarks denoting character. How can we read their meaning? Pages 795–824.

Lips (*continued*).

Will permanent facial signs follow as the result of repeated emotions and speech? Why? Page 797.

How can you tell a *secretive* person? Page 809.

Where and how do *confirmed criminals* usually show their *depravity*? Page 810.

Chins.

Is there character in the chin? How can you know? Pages 770–780.

In order to show you the usefulness of "Face and Form Reading," we will introduce to you the faculties which should predominate in the general make-up of the attorney, by which you can readily appreciate the importance of this work.

Intuition.

Do you possess this faculty? If not, can you cultivate it? How? Page 737.

How can you distinguish it? Where are the signs? Pages 737, 738.

What has Dr. Carpenter to say about "*Intuition*"? Pages 741, 742.

Read Mozart's beautiful *introspection* and *self-analysis*. Pages 742, 743.

How does Intuition assist the lawyer? Pages 743, 744.

Will a full knowledge and application of "Face and Form Reading" have a tendency to develop *Intuition*? How? Pages 746–748.

Comparison.

This faculty a lawyer needs, and needs largely? What is it? Page 731. Facial and bodily signs, where found? Page 727. How distinguished? Page 728.

In order to complete and perfect the *reasoning process* in *Man*, what two traits are absolutely essential? Page 730.

As the lawyer must, if successful, be able to reason *logically*, does it not follow that he must be an adept in *Comparison*? What ability does it give? Page 731.

How does it aid an eloquent lawyer in addressing a jury or in opening or closing a case? Page 735.

How is it related to *Causality*? Page 737.

Causality.

What is the meaning of this term? Why is it important to those dealing with large interests to possess this faculty (or trait) to a large degree? Page 715.

Where are its most prominent signs—facial and bodily? Pages 716–718.

Those lawyers who are noted for their ability to get at bottom facts possess this trait largely. Can it be cultivated? Page 721. What effect has its cultivation on the mind? Page 726. In your relations with your client, in order to put your case strongly before the court, you wish to arrive at all the bottom facts; now, if you have a large share of *Causality*, you will ask such questions as will give you the central truths tersely and accurately, hence *mere questioning* is not *investigation*. Read pages 721–726.

Calculation.

You need this faculty. Why? Page 707. You very often have interests of your clients at stake where it is absolutely essential that you be possessed of a general knowledge of accounts and the science of numbers. If you are deficient, it is essential that you remedy the deficiency? Can you do it? Pages 706, 707.

ORDER.

Mental and Physical. Do you possess this desirable faculty? How do you know? Page 696.

Why should you possess it? Page 700.

LANGUAGE.

What is it? What the facial and bodily signs? Page 652. What does the capacity to express words intelligently involve? Page 655.

In order to *converse* well, what is *essential?* Why? Page 655.

What are the *salient* points of *true oratory?* Page 661.

In order to speak with *telling effect* to a jury, what must the speaker possess? Page 661.

Can this desirable faculty be cultivated? How? Page 663.

What does Ruskin say about "Language"? Page 225.

MEMORY.

Memory is a faculty the possession of which greatly aids the lawyer in all his multifarious duties? How? Page 631.

How is memory often lost or impaired? Page 632. How can it be strengthened and developed? Page 627.

How can you tell if a person has a good memory? What are the signs? Page 625.

OBSERVATION.

Why is it necessary that a lawyer should possess *great* powers of *Observation?* Signs, etc. Pages 618–620.

What does a cultivation of this faculty lead to? Page 623.

CREDENCIVENESS.

You should have a fair amount of this faculty. Why? Page 586.

SELF-WILL.

What is it? What are its signs? Pages 569, 570.

Why should *you* possess it? Pages 574, 575.

How does it aid a lawyer, and to what does it tend? Pages 571, 572.

Did it ever occur to you that a great deal of the *wickedness* of the world can be attributed to a lack of *Self-will?* Page 570.

If you were examining a *witness* or a *criminal*, how would you tell whether they were deficient in *will-power?* Page 570.

If you, yourself, are deficient in *will-power* and wish to possess this factor of success, how can you do so? Page 578.

EXECUTIVENESS.

The possession of this faculty is an absolute necessity to one who wishes to command. Why? Page 564.

This faculty can be highly cultivated. How? Page 561.

In *choosing a partner*, or in *delegating an assistant to perform any business requiring Decision and Judgment*, how could you tell if the person chosen possessed this essential trait? What is its sign, and where located? Page 561.

CONSTRUCTIVENESS.

If you want to build up your case and make it *strong and convincing to court and jury*, you must know *how* to build; hence a fair share of *Constructiveness* aids you, does it not? Why? How? Pages 544–552.

HUMAN NATURE.

Why should a lawyer possess it in a large degree? Page 527.

How can he make it subserve his interests? Page 532.

Is there any method whereby you can read others like a book? Page 532.

IDEALITY.

We have often heard of gifted lawyers who are able to *strongly influence a jury* through the use of *beautiful language*, *metaphors*, *similes*, etc. This indicates *Ideality* in a high degree. How do you know this? Pages 515–517.

Can you cultivate this desirable trait? How? Page 522.

ANALYSIS.

Here is a faculty you need and must cultivate. Why? Page 493.

You need it to *sift* the *evidence* put before you. You need it in preparing your *brief*, and, in fact, it is a *prime factor* of success in all the operations of the law. Why? Page 494.

If deficient in this faculty, you can cultivate it. How? Page 495.

HOPE.

This faculty is a great sustainer, and enables you to battle against odds and often win your point by *pure push*, *persistency*, and *stick-to-it-iveness;* sometimes called "Gall."

How can you distinguish it? Page 486.

How can you cultivate it? Page 491.

Upon what does it depend? Page 489.

How important is it, then, that you keep good health? Page 489.

CAUTION.

How does this faculty act as mentor over our character? Page 483.

What are its signs? Page 479.

How does it aid us in all the walks of life? Pages 483–485.

RESISTANCE.

You meet this in many people with whom you come in contact, and would like to develop some plan to combat it in others who possess more than you? How can you do this? Page 464.

How can you read it in others? Or know your own deficiency? Pages 463–466.

FORCE.

What is force? Page 455.

Its signs? Where found? Page 454.

Without force of character we are of little account. Can we cultivate it? How? Pages 460–463.

Why should a lawyer possess it to a large degree? (Important.) Page 461.

SELF-ESTEEM.

This faculty is one of the most important in the whole human character, and one a lawyer should *specially cultivate.* Why? How can you know if you possess it, and how detect it in others? Page 436.

What does this faculty impart? Page 437.

How does it *assist* the *character* and *create confidence?* Page 439.

What does it teach man? How is it a tower of strength? Page 441.

CONSCIENTIOUSNESS.

What is the relation between *Conscientiousness* and *Thoroughness?* Page 311.

What are the facial and bodily signs for a *thoroughly conscientious person?* Page 303.

Why should the honest lawyer possess a large share of *Conscientiousness? How* will it aid him? Page 304.

GESTURE.

Gestures are of much importance in reading character, taken in connection with facial and bodily signs. Read bottom of page 299.

What and where are the *local signs* for the *Mental faculties?* See Fig. 15, page 288.

Locate in the *face* the *signs* for the *Visceral Organs.* Page 277.

RAILROAD MANAGEMENT.

HOW "THE ENCYCLOPÆDIA OF FACE AND FORM READING" CAN AID IN MANAGING AND OPERATING RAILROADS.

By THE PUBLISHERS.

FROM a careful study of the following questions and answers, do you not think that "Face and Form Reading" is of great use to all railroad officials in formulating a series of questions of use in Examinations for all grades of railroad employés in the various departments?

See also the special article on "Employer and Employé," by Hamilton Disston, Esq., President Keystone Saw, Tool, and Steel Works, and the questions accompanying it.

If a railroad, bridge, culvert, causeway, etc., is to be built, requiring accuracy and nicety of construction, a Civil Engineer will be required to draw the plans, etc. What are the Physical and Mental requirements of a Civil Engineer? Pages 1165–1168.

How is character developed? Page 1158.

What are the Physical and Mental faculties necessary in a Locomotive Engineer? Pages 1119.

What in a Machinist or Mechanic? Page 1116.

Is size of Head always an indication of Mental power? Page 109.

What is a prominent exponent of the quality of Brain power? Page 113.

What is a most important factor in revealing and comprehending human character? Page 120.

If you are about employing a man for a certain line of duty in the railroad service, and he has some very peculiar Gestures, what signification, if any, have they in revealing his character or capabilities? Page 299.

In reading the character of those applying for any position on a railroad, how would you proceed? Pages 1114, 1115.

CONSCIENTIOUSNESS.

All employés about a railroad should be conscientious. How can you tell if they possess this trait? Pages 303, 304.

What is it? To what does it tend? Pages 305, 306.

How is it related to Thoroughness? Page 311.

APPROBATIVENESS.

A fair share of this trait is a good friend to all. Why? Pages 379–385.

In reading the character and faculties of those engaged in or applying for positions on railroads, in any capacity, what principles guide us? Pages 146, 147.

FIRMNESS.

What shaped persons are the most Creative, and why are such useful in railroading? Page 121.

A desirable trait in all engaged in railroading, from the highest to the lowest. Why? How is it indicated? Pages 164, 165, 312–317.

In these days of close calculation, observable in the fixing of freight- and passenger- rates, etc., economy of management becomes the general order all through; hence you want those identified with you who possess the faculty of Economy. How can you tell who may possess it? Pages 171–173, 318, 319.

COLOR.

We commend to all interested in the management, building, promotion, etc., of railroads the author's whole article on Color. Pages 125–131, 409–413.

In what class of men is the sense of Color deficient? Why? Page 128.

Why should Engineers, Firemen, Brakemen, Conductors, and Trainmen generally have a fine, discriminating sense of Color? How can you distinguish the signs, etc.? Page 129.

COLOR-BLINDNESS.

To what is it usually due? Page 163.

What is Color-blindness? Pages 417, 418.

How can it be told, and what is the remedy, if not inherited? Pages 408–426.

HEALTH.

Why should general good health be a *sine qua non* of all applicants for railroad positions? Pages 137–143.

FRIENDSHIP.

Its facial and bodily signs? Page 385.

Why necessary to one in authority? Page 388.

Why necessary to a "railroader"? Page 389.

Can it be cultivated? How? Page 391.

PNEUMATIVENESS.

What is it, and what are its signs? Pages 397, 398.

Why useful to railroad officials? Pages 403, 404.

How related to high thinking and high effort? Page 404.

SELF-ESTEEM.

Men in all stations of life should possess this. Why, and what ability does it impart to the possessor? Pages 437–441.

FORCE.

When we say, "He is a man of Force," what do we mean? Page 454.

How does it aid a Railroad Superintendent or Boss? Page 455.

How does the Language one uses indicate the quality of Force? Page 460.

What does Force impart to the Voice? Page 461.

RESISTANCE.

How is it indicated? Page 463.

Why, and to what extent, is it needed by the railroad official? Page 463.

What characteristics are shown by those deficient in Resistance? Page 469.

SECRETIVENESS.

A fair share of this faculty needed. Why? Page 473.

HOPE.

Why is a fair share of Hope desirable? What and where are its signs? Pages 183–189, 468.

CAUTIOUSNESS.

Railroad Engineers, Brakemen, Firemen, Conductors, etc., must all possess Cautiousness, in order to perform arduous duties with a minimum of losses and accidents. Page 483.

What is Cautiousness? Page 479.

What is its principal facial sign? Pages 191, 479.

EXECUTIVENESS.

Here is a man of Executive ability. How do we know this? What are the indications? Pages 561–565.

Why highly necessary to all officials, particularly those of railroads? Pages 566, 567. (Kindly read carefully the whole article on Executiveness.)

SELF-WILL.

How does this faculty aid great enterprises, and why should those high in authority in Railroad Circles cultivate it, if deficient? Pages 569–578.

What are its facial and bodily signs? Pages 569, 570.

HUMAN NATURE.

Should not every official, Superintendent, Boss, etc., be a good physiognomist? Pages 525–527.

Are there not many good physiognomists (unconsciously) at present? What are its beneficial uses? Page 532.

CONSTRUCTIVENESS.

Why should the constructive ability be one of the leading faculties in the general make-up and character of all railroad people? How can you tell if one does possess it? Read all of chapter. Pages 544–551.

FORM AND SIZE.

How do these faculties assist in building up character and ability? Pages 602–614.

Of what use are these faculties to all grades of mechanics, more particularly railroad mechanics? Pages 602–614.

LOCALITY.

What desire does this faculty give to its possessor? Page 638.

Why, and to what extent, is it useful to the Engineer, Machinist, Superintendent, etc.? Pages 638, 639.

Why is it essential? Page 642.

How can the Localizing Sense be cultivated? Pages 640, 641.

OBSERVATION.

Why is this faculty of great use in operating and managing great enterprises? Page 618.

Of what is it the basis? Page 618.

What results from the cultivation of this desirable faculty? Page 623.

MEMORY AND WEIGHT.

What power does the possession of these faculties give to their possessors in the forwarding of great works of engineering and railroading? Pages 627–651.

How can a weak memory be strengthened? Pages 627–632.

PHYSICAL ORDER.

Of what use, and from what derived? Pages 209, 210.

To what does it tend in employés? Pages 698–705.

TIME.

Why highly essential to the Locomotive Engineer and Conductor? Page 681.

CALCULATION.

Calculation, pure and simple, enters into every branch of railroading? What is its origin, and where are the best natural calculators? Page 213.

Facial and Bodily Signs. Page 706.

COMPARISON, CAUSALITY, REASON.

Should not these faculties be possessed by all connected with railroad enterprises? Pages 227–231.

Where is this shown most prominently in the Human Face? Pages 227, 716, 717.

How does it cause Practicality? Page 721.

Of what does Comparison take cognizance? Pages 732–735.

ENTHUSIASM.

Are not railroads usually an evidence of the exercise of this force? How can you tell the enthusiasts who will do and dare for your interests? Pages 267, 268.

CHINS AND JAWS.

Their use as indicators of Character and Ability? Pages 773–794.

VOICE.

Its modulation and intonation as indicating Character and Ability. Pages 827–828.

How do words reveal the intellectual condition? Page 833.

Harsh voices, as a rule, belong to what kind of people? Page 832.

MOUTH.

If you want a man of plain, practical common sense, who will carry out, with the discipline of a soldier, all orders given him, why would you choose one with a mouth of medium size, showing considerable of the red portion, gently closed, and fairly well-proportioned? Pages 843, 844.

Why reject one like Fig. 191? Page 846.

NOSES.

Noses play an important part in reading character. Why? Pages 879, 880.

Please observe carefully chart. Page 881.

How does the Nose indicate ability? Page 921.

How does the Nose show the possession of Executiveness in a marked degree? Pages 887–889, 917.

How is the positive character denoted by the Nose? Pages 919, 920.

In choosing a Mechanic who said he was "A-1," would the Nose give you any indication as to the truth or falsity of his statement? Page 933.

EYES.

Eyes are factors in "Face and Form Reading."

In choosing an Engineer, etc., why would you prefer one with eyes like Fig. 246? Page 947.

Why not like Fig. 250? Page 949.

ENGINEERS.

Engineers should possess large and delicately-sensitive ears, as also Telegraph-Operators (particularly in the Railroad service). Why? Page 1022.

SMILES AND LAUGHTER.

How do they indicate character? Page 1056.

To what kind of a person does a loud, boisterous laugh usually belong? Page 1056.

Try this as an indicator, and watch the laugh and general conduct of some employé. Will the conduct and character not correspond with the laugh? Page 1056.

How is Sagacity, etc., shown by the shape and poise of the Neck? Page 1063.

THE CHILD.

THE VALUE OF FACE AND FORM READING IN THE RAISING, EDUCATION, AND TRAINING (PHYSICAL AND MENTAL) OF THE CHILD.

By THE PUBLISHERS.

THE raising, education, and training of children by the parent or guardian is a problem of no mean proportions, and any work suggestive of methods in advance of the systems at present in vogue will, we think, be hailed by parents and guardians with pleasure.

Many times we are confronted with the fact that harsh measures will not succeed, nor in many cases will easy treatment bring about the desired end.

Do not many of the errors and mistakes in training rest primarily upon the parent or guardian?

Is not this primary fault, in nearly all cases, ignorance of the physical and mental capacity and capabilities of the child?

Are we not often arbitrary and harsh with a child when, if its mental condition, disposition, and traits were more perfectly known, it would be found that mild measures, with an occasional appeal to the approbativeness of the child, would accomplish far more than harsh words or blows?

Knowing how to treat children in their training and education is an art that every parent or guardian would gladly learn.

We do what we think is for the best interests of the child, and often we wake up to the fact, after much time spent in such training, and realize that we have been pursuing the wrong course.

Will a study and application of the principles of "Face and Form Reading" enable us to become better acquainted with our children, their needs, their capacities, their capabilities? Can the secret springs of volition be traced to their fountain-head and the *why* and *wherefore* of mental phenomena in the child be analyzed and understood?

We think so; hence this work. And in order that parents and guardians may possess some landmarks to aid them in the search for mental characteristics in the child, we have prepared the appended questions, the answers to which (found on pages indicated) will enable you, we hope, to handle this delicate subject in a manner befitting its importance, and with results far more gratifying than under the old " hit or miss " plan.

To parents nothing is more important than the proper raising, training, and education of the child, and as they are trained in youth so will be their Manhood or Womanhood.

Almost every phase and condition of child-life is touched upon in these questions, and the answers from the author's standpoint are, in the main, practical and in accordance with right reason.

These questions could readily be extended into the hundreds, but what we give you will suffice to show the great desirability and utility of " Face and Form Reading " to every parent and guardian.

MUSCULAR SYSTEM.

Why is a good development of the Muscular System necessary to the child? Page 75.

What are the best means to develop? Page 76.

What important traits will it develop in the child? Page 77.

If your child has a very large muscular development, upon what particular lines should be the training? Pages 81–83.

Should your child have a bright eye, what does it indicate as to the nerves of sense? Page 96.

BRAIN.

What have Brain and Nerves to do with character-building, and how can you measure the Mental power of the child? Pages 97, 98.

Should the child be puny and weak physically, but brain development large, what can be done to balance and harmonize? Page 99.

FORM.

What has this to do with Natural ability, and how can we interpret Form? Pages 120–124.

COLOR.

What does the difference in complexion indicate? How and why is this so? Page 127.

Does Color indicate Mental Power and Genius? Page 113.

What are Kindergartens doing to develop the Color-sense in children? Page 129.

HARMONY.

Is not this the basis of a really good useful character in the child? Page 137.

What is the connection between Morality and Harmony, and the best way to develop, that the child may possess a well-balanced organization? Page 138.

How shall we treat very precocious children? Page 139.

What should we do and what not do? Page 139.

What is the most conducive to the Mental and Physical welfare of the child, and what method will produce the best results? Page 139.

How should oversensitive and nervous children be managed for the *first ten years* of child-life? Page 140.

Why should children be overseen at play as well as at work? Page 141.

What do pinched features usually indicate as to physical condition? Page 143.

How is the Moral sense of the child created and fostered? Pages 155, 156. (Read Dr. H. Mandsley.)

SELF-WILL.

This, in some children, is hard to control. What are the author's views as to the management of children who are self-willed? Pages 195, 196.

LOVE OF HOME.

How can a Love of and for Home be created in the young? Page 165.

What measures tend to create this trait and prevent the child learning vicious habits? Page 165.

What are the signs for this faculty? Pages 175, 324.

OBSERVATION.

For what is this faculty useful, and how can it be cultivated in the child? Pages 199, 201, 621.

COMPARISON, CAUSALITY, AND REASON.

Why teach these faculties to our children? Pages 227, 228.

What has "Face and Form Reading" to do with the child's training for the duties of Life? Pages 239, 240.

JEALOUSY, REVENGE, ETC.

Can tendencies in the child to Jealousy, Revenge, and Anger be modified and controlled? Pages 248–257.

These traits are not conducive to health. Why not? Page 263.

GESTURES, SMILES, AND LAUGHTER.

Do Gestures, Smiles, Laughter, Motion, etc., indicate in any manner character or mental ability? Pages 299, 300.

What does the *kind* of Laughter in a child signify? Pages 1054, 1057.

NECKS.

What kind of a Neck had Napoleon Bonaparte, and what kind of character did it indicate? Page 1063.

If the Neck of the child is long or short, thick or thin, what does this indicate as to character? Page 1057.

HEALTH.

What are the signs of Health and Disease, Strength and Weakness in the child, and where do we find the indications? Page 1085.

VOCATIONS.

How can we be guided in choosing a vocation for the child? What aid will "Face and Form Reading" give us in such choice? Pages 1111–1182.

HARSHNESS, ETC.

If you have been harsh with the child and stubbornness has resulted, what is the best course to follow in order to harmonize? Pages 1182, 1183.

If too lenient and indulgent, what is the best to do? Pages 1182, 1183.

DIETARY FOR BONE AND MUSCLE DEVELOPMENT.

Should the child be taking on Flesh too rapidly or "Getting Fat" (an excess of which tends to indolence and disease), what kind of food should be given to overcome this tendency? (Important.) Page 69.

If the child is small-boned or the development of bone appears to be somewhat retarded, what should the diet of such a one consist of? Page 87.

Why is it of prime importance that the food of young, growing children should consist of those articles containing Lime and its phosphates (such as Bread from Unbolted Wheat), Milk, Eggs, Salt, Farinaceous or Starchy food

DIETARY FOR BONE AND MUSCLE DEVELOPMENT (*continued*).

(as in all vegetables), and Animal Fats? Pages 87, 88.

Should an excess of Bone exist and a deficiency of Fat and Muscle, we must use foods that are Flesh and Muscle builders. See the author's remarks. Read all as to "Dietary" carefully, as it is very important and has the indorsement of Physicians and Hygienists of prominence. Pages 91–93.

CONCLUSION.

If you read carefully and follow out the suggestions of the author of "The Encyclopædia of Face and Form Reading," can Health, Happiness, and Character-building be advanced and developed in the child? Pages 1183, 1184.

LONGEVITY THROUGH HYGIENE.

THE LIGHT THROWN BY "THE ENCYCLOPÆDIA OF FACE AND FORM READING" UPON THE ATTAINMENT OF LONGEVITY THROUGH HYGIENE.

By **THE PUBLISHERS.**

As progressive Medical Publishers we have noticed, the last few years, the gigantic strides of the Medical Profession in the line of Hygiene, or Preventive Medicine. Almost every physician, we think, would sooner advise as to means to prevent threatened sickness than to prescribe for serious illness.

The articles specially prepared as "aids" to the study of this work by prominent physicians bear us out in this statement, and, in connection with this article on "Longevity through Hygiene," we kindly ask you to read each and every such article.

The theories advanced as to tendency to disease and the means to avert such tendency through a knowledge and practice of the laws of Hygiene, while not new, gain additional force and assume a more important aspect from the connection of Facial and Bodily signs as indicators of Health and Disease, Strength and Longevity.

To the majority of people these theories may appear novel and startling; but they are evidently based on facts that are daily becoming more apparent to the advanced, progressive physician, and are being used more and more in his daily diagnosis of disease.

Indorsed, as this work is, by eminent members of the Medical Profession, its readers will gain much valuabe information of every-day use, enabling them to better cope with the realities of life.

The following questions (the answers to which are to be found on the pages indicated) will suggest some of the uses to which the knowledge conveyed by a study of "The Encyclopædia of Face and Form Reading" can be put to aid one in securing Longevity through Hygiene:—

VEGETATIVE SYSTEM.

If the system is overburdened with an excess of fat, what Hygienic measures will tend to bring about an equilibrium? Page 69.

If a deficiency of the Vegetative System exists, what diseases are liable? Page 70.

THORACIC OR CHEST SYSTEM.

What Hygienic measures tend to produce harmony? Page 74.

THORACIC OR CHEST SYSTEM (*continued*).

Persons with large chest-development are subject to what diseases? Page 73.

How can this tendency be avoided? Page 74.

MUSCULAR SYSTEM.

What Hygienic measures will assist in muscular development and promote Longevity? Page 83.

OSSEOUS OR BONY SYSTEM.

For an excessive development of Bone, what Hygienic measures will tend to harmonize? Page 92.

For a deficient development of bone, what is the remedy? Page 92.

BRAIN SYSTEM.

A disproportioned brain system leads to what diseases? Page 99.

Does Hygiene inform you how such an evil tendency can be avoided or remedied? Page 133.

SIGNS FOR LONGEVITY.

Where are these signs shown in face and body? Page 133.

What is the main reliance to overcome disproportion? Page 134.

Examples of Longevity due to living in accordance with Hygienic Laws? Pages 134, 135.

GOOD HEALTH.

The basis of long life. Page 137.

The connection between good health, morality, and long life? Pages 138, 139.

How does Ventilation affect longevity? Page 139.

What is conducive to Longevity? Pages 139, 140.

What examples of weak, sickly children, who lived long and useful lives, does the author give? Page 140.

What are the author's views as to Drug Medication *versus* Hygiene? Pages 142, 143.

What is the *Vis Medicatrix Naturæ* as outlined by the author? Page 143.

How should Eating and Drinking be regulated? Pages 162, 354.

What has perfect Kidney Organization to do with Longevity? Page 163.

Those noted for longevity have a certain unfailing sign in the face? What is it? Page 164.

Can this faculty be so cultivated as to promote Longevity? How? Page 165.

ALIMENTIVENESS, OR DIGESTION.

What influence have perfect digestion and assimilation on Longevity? Pages 165, 166.

What is the most important knowledge for mankind to gain? Page 185.

What bearing has this on good Mentality and Longevity? Page 185.

Why is a perfectly normal liver essential to high Mentality and conducive to Longevity? Page 254.

What is an ally of Longevity? Page 257.

What does "Face and Form Reading" teach as to Mental and Physical defects? Page 270.

What signs have we in the face indicating healthy Visceral organs, and what do these signs indicate as to power to resist disease and assist in attaining Longevity? Page 277.

FIRMNESS AND HOPE.

How do these faculties promote Longevity? Pages 316, 488, 490.

DRINKS.

Do artificial drinks assist in promoting Longevity or retard it? Page 345.

What drinks do tend to Longevity? Page 346.

LAUGHTER AND MIRTH.

Laugh and grow fat; laugh and live long. Is longevity promoted by Mirth and Laughter? Page 376.

How does a sunny disposition ward off physical ills and promote long life? Page 376.

PNEUMATIVENESS.

How does this faculty aid long life? Page 397.

What is the prime essential in Health and Longevity? Page 400.

If one is rather deficient in this faculty, how can it be developed? Page 408.

SANATIVENESS (LOVE OF LIFE).

If strongly developed and fortified by Hygienic measures, what is the tendency toward Longevity? Pages 427–430.

Is Longevity an attribute of Sanativeness? Page 433.

What Natural Remedies conduce to Longevity? Pages 432, 433.

What important part does Sanativeness play in the *Drama of Life?* Page 434.

FORCE.

What does it create? Page 458.

What does lack of it create? Page 459.

Can those lacking it develop it, and, if weak, strengthen it? How? Page 460.

RESISTANCE.

How is resistance an ally of Hygiene, and how does it assist to Longevity? Page 464.

CAUTIOUSNESS.

An aid in attaining Longevity through Hygiene. How is this? Page 483.

What are Nature's Physicians? How do they aid to Longevity? Page 578.

HAIR AND BEARD.

In what respect is the hair a sign of Longevity? Page 1000.

How do the Moustache and Beard indicate Longevity? Page 1014.

LAWS OF NATURE.

How should the Laws of Nature be applied to aid in attaining Longevity? Page 1105.

Physicians and scientists are bending every effort, and Boards of Health formulating measures of Hygiene, whereby the masses can avoid many of the ills of life.

Much thought is being given to the development of Hygienic measures in order to stamp out diseases due to dirt. Preventive Medicine is, at the present day, forging to the front; and, aided by Physical Training, will, we hope, carry mankind to a higher plane of perfection, physical and mental.

A study and application of the principles of "Face and Form Reading" cannot fail to be of benefit. These few questions and answers show the great scope of the work and its practical uses in every-day life.

IMPROVEMENT AND DEVELOPMENT.

What Light will Face and Form Reading Throw on Human Improvement and Human Development?

By THE PUBLISHERS.

WHY do some faces repel, others attract? Why do different people often form the same conclusions regarding a certain other person? Why do we associate certain traits with certain peculiarities of face, form, gesture, color, etc.? Because there are natural laws which govern these things. Because there cannot be an effect without a cause. That certain types of faces, both as to shape, color, and expression, are associated with certain types of bodily form is a fact familiar to all anatomists.

Every student of evolution knows that, commencing at the lowest form of animal life, facial features have been evolved, one by one, in conformity with vital organs of the physical system. Everywhere in nature each ascertained fact, in the slow but steady progress of human research toward a better and more thorough knowledge of God's manner of working through nature, adds but additional and irresistible testimony to the doctrine that form, color, gesture, voice, and expression all have a meaning, and can be traced back to primal causes,—to a correlation with the vital organs upon whose action life and development depend. This being the case, and this natural science having been practiced intuitively, often unconsciously, from the birth of the race to the present day, by every class and condition of mankind, from the cradle to the grave, it is but fitting that in this age of marvelous development, this period of wonders in electrical, biological, psychological, bacteriological, medical, and general scientific development, this science should at last be reduced to basic laws and principles, harnessed down, as it were, by the strong hand of investigation and discovery, and, in common with other natural forces, made to serve, even more directly than in the past, the needs of man.

Having penetrated so far into this new domain, having grasped the basic principles underlying the reading of human character and the reason for its different phases, why should not this science, so wonderfully fascinating, which appeals so strongly to every human being, be made to work wonders for humanity? Having learned the physical causes of mental peculiarities, and that certain physical and mental combinations produce certain physical and mental results, why should not the process of evolution, through right training, education, marriage, and generation, go on until a race shall be evolved that will be as superior to that which exists to-day as is the race of to-day to our rude forefathers of a thousand years ago?

What untold wonders of scientific, mental, physical, social, and religious development may not the coming generations witness through this new science,—new in this fullest sense, but yet, in instinctive, uneducated, and ungoverned use, is old as the race, —a science which in its crudity, like Niagara, has existed for thousands, possibly millions, of years, but which now, trained, guided, and governed like the Niagara of to-day, is at last being bound by rules and bands which shall yet render it an obedient servant of progressive mankind!

In this day of higher education, of discovery and investigation, particularly in the fields of Evolution and Psychology, skepticism upon the subject of the possibility of "Face and Form Reading" is fast passing away.

While differences of opinion exist and will doubtless continue to exist, yet the general tendency is in the direction of a steady progress toward reducing this science to fixed principles recognized by the mass of investigators.

No one who reads carefully this work can for a moment doubt its usefulness in the Improvement and Development of the Human Race.

Basic Principles.

Has the science of "Face and Form Reading" any underlying Basic Principles? If so, what are they? Pages 7–10.

What is Mind, and who advances this idea? Page 12.

Upon what is the philosophy of expression based? Page 27.

Form.

What is the origin of Form? Pages 29, 30.

Has Form, as exhibited in the human body, a meaning? Page 41.

In the evolution of the Human Race, can we prove the co-operation of Nature, Art, and Science? Page 55.

Interpretation.

How is a rational interpretation of Social phenomena possible? Page 81.

If the face is read scientifically, will it aid us in analyzing character? Page 95.

Through what channel is Man endowed with the power of reasoning? Page 99.

Color.

The Human Race is many-hued, variously tinted as to Color. What do these different tints mean? Pages 126–128.

What has the state or condition of the Liver to do with Color? Page 183.

What is the connection of the Liver with the Mind? Pages 184, 185.

MEMORY.

Upon what does it depend? Page 203.

What causes a loss of memory? Page 204.

DEVELOPMENT.

What is the distinctive difference between Developed and Undeveloped Races? Pages 227–229.

SIGNS, MENTAL AND PHYSICAL.

Where are located the signs for the Physical Organs? Page 277.

Where are located the signs for the Mental Faculties? Page 288.

What does Sir Thomas Browne, M.D., say as to "Signs of Character in the Face"? Page 297.

Where is Man's character spread? Page 301.

ENERGY.

Upon what is great energy of Mind and Body dependent? Page 403.

What does large lungs create? Pages 403–405.

TO READ CHARACTER.

In order to read Human Character, what is essential? Pages 1114, 1115.

How is a study of the encyclopædia of use to parents in choosing vocations for children? Page 1113.

Do the Face and Form indicate the well-bred or thorough-bred person? Pages 1108, 1109.

To what physical disorders are people of very dark skin, hair, and eyes liable? Page 1099.

How can the Human Race be improved and more thoroughly developed, and will a study of this work aid in attaining this desirable end? Pages 1105, 1106.

NATURAL PHENOMENA.

Causality is the base of all Natural Phenomena. What does a cultivation of it lead to? Pages 721, 722.

HEALTH AND DISEASE.

What are the signs of Health, Disease, Strength, and Weakness in the Human Face and Body? Pages 1085–1106.

Will a study of the principles and application of the hints and ideas aid in Human Improvement and Human Development? Page 1183.

These few questions (answers on pages indicated) will show the reader the great usefulness of this work, and, in connection with the special articles by eminent physicians, educators, etc., will aid him or her in obtaining knowledge of every-day use in the home, in business, and in society.

HISTORICAL SKETCH.

Away back in the dim, misty days of antiquity, of which we catch but a glimmer from the light of history, man was seeking light and knowledge,—to know more of his environment, more of himself, his kindred, and others.

The *why* of every phase and form of Mental Phenomena was sought for with much avidity and painstaking care. During this chaotic and evolutionary epoch much that, in the hands of Modern Science, has been systematized into form was evolved, until, at the present time, "Face and Form Reading," the Modern Physiognomy scientifically explained, stands before us, and must, of necessity, take rank as an important Mental Science.

No science has as yet reached perfection (and probably never will), nor do we claim perfection for the present System of Physiognomy; but such as we give you in this work is capable of Mathematical and Physical, as well as Practical, demonstration.

Many brilliant and solid minds have for ages been engaged in the task of unraveling the tangled threads of life and human action, to assign a cause for every effect.

"The Encyclopædia of Face and Form Reading," while a scientific work, is pre-eminently practical; and, while the limits of the science have not by any means been reached, what we give you in this encyclopædia is the concentrated and sublimated result of the evolution of many ages of thought and research on this interesting and fascinating subject. All that is known on the matter to date is here gathered in systematic arrangement, and the theories and laws for *all* mental phenomena, so far as is known, render the science practical and useful.

The following eminent Physicians, Scientists, Thinkers, and Philosophers, Ancient and Modern, have thought and written on the all-absorbing subject, "Man, Know Thyself."

Writers on Physiognomy and Kindred Topics.

HISTORIANS, POETS, ETC.

Moses, "First Elements in the Pentateuch."

Adamantius, Ancient Greek Philosopher

Socrates, Greek Philosopher. Born, B.C. 470; Died, B.C. 399.

Plato, Greek Philosopher. Born, B.C. 429; Died, B.C. 348.

Aristophanes, Greek Poet. Born, B.C. 440; Died, B.C. 380.

Aristotle, Greek Philosopher. Born, B.C. 384; Died, B.C. 322.

Zeno, Greek Stoic Philosopher. Born, B.C. 358; Died, B.C. 260.

Cleanthes, Greek Philosopher. Born, B.C. 300; Died, B.C. 220.

HISTORIANS, POETS, ETC. (*continued*).

Seneca, Roman Stoic Philosopher. Born, B.C. 5; Died, A.D. 65.

Lucius Annæus Tertullian, Latin Theologian. Born, A.D. 150; Died, A.D. 220.

Xenophon, Greek Philosopher and Historian.

Strabo, Greek Historian and Geographer. Born, B.C. 54; Died, A.D. 24.

Plutarch, Greek Historian and Biographer. Born, A.D. 49; Died, A.D. 120.

Caius Cornelius Tacitus, Roman Historian. Born, A.D. 55; Died, A.D. 117.

Marcus Valerius Martialis, Latin Poet. Flourished A.D. 98

Decimus Junius Juvenalis, Roman Poet. Flourished A.D. 100.

Lucan, Greek Poet. Flourished A.D. 140.

Lucian, Greek Author and Poet. Flourished A.D. 150.

PHYSICIANS (ANCIENT).

Hippocrates, Greek Physician. "The Father of Medicine." Born, B.C. 460; Died, B.C. 357.

Caius Pliny, Roman Physician, Naturalist, and Author. Born, A.D. 23; Died, A.D. 69.

Claudius Galen, Roman Physician and Medical Author. Born, A.D. 130; Died, A.D. 200.

Aurelius Cornelius Celsus, Roman Physician and Writer. First century.

Ibn Sina Avicenna. Mohammedan Physician, Philosopher, and Author. Born, A.D. 980; Died, A.D. 1037.

Ibn Rashd Averroes. Arabian Physician, Philosopher, and Author. Born, A.D. 1149; Died, A.D. 1198.

EARLY CHRISTIAN FATHERS, ETC.

Niquetius, Jesuit Father. "Physiognomia Humana." Flourished 1648.

St. Ambrose, Latin Father. Bishop of Milan. Born A.D. 340; Died, A.D. 397.

St. Gregory the Great, Supreme Pontiff. Born A.D. 540; Died A.D. 604.

St. Gregory Nanzianzen, Bishop of Constantinople. Born, A.D. 326; Died, A.D. 389.

St. Gregory Nyssus, Greek Bishop, etc. Born, A.D. 332; Died, A.D. 394.

Sophronius Eusebius (St. Jerome), Latin Father and Bishop, Church Historian, etc. Born, A.D. 345; Died, A.D. 420.

St. Augustine, Numidian Bishop of Hippo. Born, A.D. 354; Died, A.D. 430.

MODERN PHYSICIANS, SCIENTISTS, THINKERS, ETC.

Hieronymo Cortes, Spanish Physician. "Phisonomia y varios Secretos de Naturaliza," 1610.

Ciro Spontini, Eminent Venetian Physician. "Metaposcopy of the Eyebrows." 1626.

Dalla Porta Napolitano, Italian Anthropologist. "Della Fisonomia dell' huomo." 1627.

De la Chambre, French Physician and Anthropologist. "L'Art de Connaitre les hommes." 1660.

C. Lebrun, Celebrated Artist of Louis XIV. "Expressions des passions de l'âme." 1667.

Ghiradelli, Italian Professor and Anthropologist. "Cephalogy Physiognomical." 1672.

Adrien Sicler, French Physician. "Chiromancie Royale Nouvelle enrich de figures de observations de la Cabale." 1677.

Giovanni Ingegneri, Italian Bishop of Capo d'Istria. "Naturale Fisonomie." 1686.

Scipione Chiaramonte, Italian Anthropologist and Physician of Cesena. "De Conjectandis Cujusque Moribus et latentibus anima affectibus." 1690.

H. Engel, German Physician. "Briefs die Expression." 1765.

Camper, French Physician. "Dissertation Physique sur les différences réelles que présentent les raits du visage." 1791.

Sir Charles Bell, English Physician. "Anatomy and Physiology of Expression." 1806.

Lavater, Swiss Clergyman. "Fragments of Physiognomy"; "The Physiognomical Bible," etc. 1807.

Povi Polli, Italian Physician. "Essay on Physiognomy and Pathognomy." 1837.

A. Burgess, English Physician. "Physiology and Mechanism of Blushing." 1839.

Lepelletier de la Sarthe, French Physician. "Traité Complet de Physiognomie." 1848.

Prof. S. R. Wells, American Physiognomist. "The New Physiognomy." 1863.

Fillippo Cardona, Italian Physician. "Della Fisonomia." 1863.

MODERN PHYSICIANS, SCIENTISTS, THINKERS, ETC. (*continued*).

Prof. A. E. Willis, American Physiognomist. "The Modern Physiognomy." 1864.

Gratiolet, Italian Anatomist. "De la physiognomie et des mouvements d'expression." 1865.

Albert Lemoine, French Physician and Anthropologist. "De la Physionomie et de la parole." 1865.

Aug. Piderit, German Physician and Anthropologist. "Wissenschaftliches System der Mimik und Physiognomik." 1867.

C. Mastrani, Neapolitan Physician. "Notomia Morale," etc. 1871.

Chas. Darwin, English Anthropologist, Physician, and Scientist. "The Expression of the Emotions in Animals." 1872.

P. Duchenne, French Anthropologist. "Mécanisme de la physiognomie humani ou analyze électro-physiologique de l'expression de passions." 1876.

Paoli Mantegazzi, Italian Senator, Anthropologist, Physician, etc. "Physiognomy and Expression"; "Physiology of Pain." 1891.

Sir Thos. Browne, M.D., English Physician. "Religio Medici."

Francis Galton, English Physician. "Hereditary Genius."

J. Lauder Lindsay, English Physician. "Mind in the Lower Animals."

L. Topinard, M.D., Florence, Italy. "Revue d'Anthropologie des Diverses espèces de Prognothisme," Archivo per l'Anthropologie et l'Ethnologie.

INTRODUCTION.

IF the most learned man of the twelfth century were to return to earth and become cognizant of our advance in the sciences and industrial arts, he would doubtless believe, at first, that he was in the midst of works of magic more wonderful and powerful by far than the mysterious and occult operations of the Magi of his own age. He would note the use of natural forces turned to the economies of life by ingenious and complicated machinery; he would be shown the wonders of steam navigation, of the art of printing, of electricity in its numerous developments and uses, of the telegraph and telephone, together with the telescopic and microscopic discoveries which astonish even this progressed age. The knowledge of the laws of sound, motion, light, and color, which this epoch has evolved, would unfold to his senses a world of realities as new to his mind as if he, in verity, were transported to quite another planet than the one which had been his former habitation. After taking note of all our increased knowledge of science in its various departments, and after examining our museums and institutions of learning, if he were to ask, What do you *now know* of man?—of his powers and properties? what reply could we make? We might answer that we understand the circulation of the blood, a little about the nervous system, somewhat of the process of digestion; that we know the number of the bones and have named them, and also the action of the muscles; that we are in a state of uncertainty as to the function of the brain; that we know very little of the prevention of disease, much less about its cure, and nothing at all as to the meaning of his physiognomy. What think you would be his opinion of our progress in useful knowledge? Surely, he would conclude that we had vexed our minds with many things that could be dispensed with, and had neglected the most useful of them all. The knowledge of man and how to improve his capacities, how to protect his bodily powers, how to prevent and remedy the diseases which assail him, is surely of more importance than many of the studies upon which valuable time has been spent without advancing the knowledge of man one step. All through the ages of which we have any recorded history we find inklings of an instinctive perception of physiognomy.

The writings of Moses show him to have been a profound student of human nature, and possessed of a power to read and understand countenances and features. His knowledge of sanitary law, in regard to food and diet and the protection of the body, and the success attending the application of these laws, place him even beyond the sanitarians of to-day. Among the earliest Greek writers, Aristotle, Plato, and Galen may be named as having written and taught physiognomy. Hippocrates also formulated a system based upon the several colors of the human complexion. This classification has passed down to the present day, and has been accepted by naturalists in its application to man, while at the same time, with singular inconsistency, the lower animal kingdom has been classified on the basis of form, and correctly so, as color is an effect, not a cause; it is dependent on climate, food, habit, and other accidental surroundings. Even phrenologists, who ought to know better (since their researches extend widely among the animal kingdom), have retained the classification which Hippocrates set up. The differences observable in the human family he denominated temperaments—a word which has no intelligent application even to the false basis upon which the old Greek physician founded his system, long before the circulation of blood was discovered by Harvey, and before the functions of the liver, heart, and brain were at all understood.

Each age has added its contributions to our knowledge of physiognomy, and if these contributions have not given us heretofore a correct system, at once practical and scientific, they have maintained an interest and a belief in this science. This interest and belief have served as a beacon-light, which has flashed far down the ages made brilliant by the works of the most renowned philosophers and literates. Among the Grecians, Aristotle wrote extensively on this subject. Pliny, Cicero, and others of ancient Rome found this science worthy of their consideration, while, later in the advancing centuries, we find Petrus d'Abbano lecturing on physiognomy before the students of the University of Paris. After him followed the renowned Avicenna, Averroës, Michael Scott, and the Italian sculptor and naturalist, J. Baptista Porta, the discoverer of the camera obscura. Later still, many German, French, English, and American observers left their writings among us to be added to and built upon. Lavater, in 1801, wrote numerous volumes on the subject, copiously illustrated, in which he had the assistance of some of the best artists in Europe. It is through his works, and from his associations that this science is best known to modern students. His purity of life and high position (he having been an eloquent clergyman, pastor of St. Peter's Church, at

Zurich) placed physiognomy on a footing of credibility. His works are what he named them—"Fragments"—merely, without system and largely impractical. His efforts, like those of his predecessors, have assisted in continuing the belief and interest in the science.

Prominent among the German and French observers and writers are the eminent Blumenbach, Spurzheim, Camper, Bichat, Broussais, and De la Sarthe; among the English, Sir Charles Bell and Alexander Walker; and among Americans, James W. Redfield. In 1817, Dr. John Crosse published from the University Press, at Glasgow, a series of lectures on physiognomy which he had delivered, setting forth a system which contains practical knowledge, susceptible of proof and capable of application by any ordinary observer.

Prof. Joseph Le Conte, of the University of California, in an able article in the *Popular Science Monthly*[*] describing the advance of science, says:—

"In all sciences, but especially in the higher and more complex departments, there are three distinct stages of advance. The first consists in the observation, collection, and arrangement of facts—Descriptive Science. The second is the reduction of these to formal laws—Formal Science. Thus far the science is independent of all other sciences. The third is the reference of these laws to the more general laws of a more fundamental science—in the hierarchy as their cause—Causal Science. It is this last change only which necessarily follows the order indicated above. Its effect is always to give great impulse to scientific advance, for then only does it take on the highest scientific form, then only does it become one of the hierarchy of sciences, and receive the aid of all. Thus, to illustrate, Tycho Brahe laboriously gathered and collated a vast number of facts concerning planetary motions—Descriptive Astronomy. Kepler reduced these to the three great and beautiful laws known by his name—Formal Astronomy. But it was reserved for Newton, by means of the theory of gravitation, to explain the Keplerian laws by referring them to the more general and more fundamental laws of mechanics as their cause, and thus he became the founder of physical and causal astronomy. In other words, astronomy was at first a separate science, based on its own facts. Newton connected it with mechanics, and thus made it one of the hierarchy. From that time astronomy advanced with increased rapidity and certainty. Astronomy first rose as a beautiful shaft, unconnected and unsupported, except on its own pedestal. In the meantime, however, another more solid and central shaft had grown up under the hands of many builders, viz., mechanics. Newton connected the astronomical shaft with the central column of mechanics, and thus formed a more solid basis for a yet higher shaft."

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[*] Popular Science Monthly, January, 1879, p. 325.

This description truthfully and beautifully shows the progress of scientific research. The system which this work presents to the reader has advanced to the third stage of progression. It presents a description of facts in relation to the human physiognomy and organism which have been observed and collected; it reduces these facts to laws, and, lastly, shows the correspondence of this science to the general and fundamental laws which underlie all matter, viz., those of chemistry, architecture, and mathematics. The sum of all human action is based on these three fundamental principles of Nature, and man's organism illustrates the influence of these laws. I would like to see the facts contained in this work in the hands of all who love their kind, and who desire its elevation by scientific methods. In the years to come I do not doubt that more ample knowledge of physiognomy will be disseminated by greater minds, with better opportunities of observation than have fallen to me. It would seem a very appropriate time for spreading the knowledge of man, now that so much is known of his environment, and while so many hitherto unknown applications of the forces and substances of Nature are coming daily to light which are immediately connected with his welfare. Earnest and religious regard for the advance of mankind to grander heights of purity and nobility of life, added to the belief that nothing short of the knowledge of scientific laws and their application can regenerate the human race, has impelled the writing of these ideas.

PART I.

THEORETICAL PHYSIOGNOMY.

CHAPTER I.

Basic Principles of Scientific Physiognomy.

"The mind is invisible to those who understand not the body of physiognomy."
—Winkleman.

LAVATER defines physiognomy to be the "art or science of discerning the character of the mind from the features of the face, or the art of discovering the predominant temper or other characteristic qualities of the mind by the form of the body, but especially by the external signs of the countenance, or the combination of the features."

This definition scientific physiognomy accepts in so far as it relates to the human species, but extends it in a more comprehensive manner so as to include all animate and even inanimate nature. The *form* of every rock, tree, animal, and object in existence has *come by design, and is self-revealing as to its true character.* That we fail in many instances to comprehend the meaning of certain forms observed in Nature is due to our lack of acute observation, or want of comparison, or ignorance of the meaning and significance of the basic principles of form,—a science which this system of physiognomy undertakes to unfold and apply to the human and animal face and body, as well as to vegetable and mineral formations.

It is logical to infer that form has general laws which are self-revealing. Without knowledge of these general laws we must forever remain in ignorance of most of Nature's meanings in regard to the myriad things in the universe. Without some *principles of form* to guide us, character remains a sealed book; but Nature has equipped many if not most of her children with faculties suited to the true interpretation of signs which are thrown out in the most affluent manner by every form in existence.

Nature's hieroglyphics are easily deciphered by the keen observer, and the facial signs of every human creature can be understood by those who are willing to study and apply the basic principles of form.

In entering upon the study of physiognomy, or mental science, it will be well if we consider briefly the methods formerly employed by metaphysicians in the investigation of the science of mind, and then, as we proceed to contrast them and their results with the system which I shall present to your attention,—a system which has occupied the best thought of thirty-five years of my life,—you will doubtless ask what relation there is between the human physiognomy and metaphysical theories. If we were intending to confine our study to ancient metaphysics or even modern metaphysics and theological theories of the mind, I should be compelled to answer that there is no relation between them, since these two classes of thinkers confined themselves to speculations merely and sought no solution in the investigation of the mechanism through which mind is manifested. Modern scientific observers, however, pursue the study of mind by investigating the body it inhabits and of which it is a part, and, as the face is proven to be the index or register of the entire organism (which you will acknowledge as we proceed), we are compelled to study the mechanism within the body which we find to be the moving cause of those expressions, forms, and colors that reveal to us the mind or character of the individual.

Our knowledge of the history of mental science reaches far back into the age of Grecian civilization. The philosophical or metaphysical method of studying the human mind was coeval with the age in which configuration or sculpture reached its acme. It was also coeval with the creation of the greatest epic poems, of some of the grandest dramas and most sublime orations known to man. In short, it was an age of art, not of science. The great metaphysicians of Greece,—Socrates, Plato, Aristotle, Thales, Pythagoras, Anixamander, and many other ancient philosophers, —however they may have differed in their several systems of philosophy, all alike believed in and used one common method of investigating mind. This method consisted in the investigation of self-consciousness, that is to say, an observation of the manner in which the mental processes—viz., those of memory, reason, will, comprehension, and perception—were carried on in the mind of the observer. Each philosopher sat in judgment, as it were, on his own method of thought, etc., and then gave to his investigations the name of "mental science." Observations were pursued in this manner by all of the Greek thinkers, without any reference to bodily conditions, with the single exception of Aristotle, whose researches in natural history among insects, birds, and beasts, had given him greater insight into the origin and development of mind, both in the lower animals and in man. He, beyond all the other philosophers of his age, possessed a better comprehension of the physiology and anatomy of animal organisms, together with a very moderate knowledge of the physiology of man. The superstitions of his age prevented the dissection of human bodies, and thus these philosophers were cut off from pursuing one practical and scientific method of studying mind.

For two thousand years these impractical systems of mental science dominated the world of thought, then the great Bacon arose and began the study of mind from an entirely different standpoint. His studies in the practical sciences—he having been the inventor, it is said, of the telescope, air-pump, diving-bell, and of gun-powder, besides having written very learnedly upon optics, chemistry, medicine, mathematics, and many other sciences—naturally led him to adopt a scientific method of investigating mind; but as very little more of physiology was known in his day than in the age of Aristotle, his writings on mental science are not as reliable as those of the more modern thinkers, yet his method was an advance on those preceding him. The circulation of the blood was not discovered by Harvey until four hundred years after the death of Bacon; the construction and operation of the heart, liver, lungs, and brain were not known until still later periods. How, then, can it be expected that a knowledge of the mind of man could be studied or comprehended without an intimate knowledge of his bodily functions?

The subjective method (as it is denominated) of the ancients would not have seemed so impractical a mode of studying mind, had all persons been alike normally constituted; but so large a proportion of persons are insane (it is now estimated that one in five hundred is so at the present day, and there are also many undeveloped races in existence, and were then, as well as children who are also in a state of undevelopment), that if the subjective method is to be employed, we should never know anything at all about these several classes of beings who form a large proportion of our population. Now, in any system of mental science, to ignore the knowledge of the character of all children, of all undeveloped races, and persons such as idiots, imbeciles, and the insane, as well as those who are laboring under temporary aberration and weakness of mind of every degree whatsoever, is to deprive mankind of the most useful and necessary part of the knowledge of himself; hence any system of mental science which fails to treat of these several classes, together with the means for their improvement, cannot be considered either practical or scientific.

In order to understand the human mind practically, we must commence with its first manifestations in childhood. It was in this manner that Locke, so justly celebrated for his wonderful essay on the "Human Understanding," commenced the investigation of mind in the eighteenth century. He considered the nature of children and of savage races. He was the first metaphysician who made any decided advance in the method of studying, investigating, and interpreting the human mind, and this advance was due to his observation of *Nature*, by his discarding the old metaphysical methods, and by basing his laws upon observations made on living subjects. He first observed natural phenomena in children and savages, and then, by generalizing, was able to discover the laws underlying the actions of the individuals thus observed. He also made observations among animals, and here the investigator will find corroboration of many laws which are recognized in the human family.

Modern writers of the greatest eminence, among whom we find the celebrated M. de Quatrefages, Mr. Herbert Spencer, Mr. Darwin, Dr. H. Maudsley, and Professor Huxley, all agree in their methods of investigating character by first observing plants and animals. M. de Quatrefages, in his celebrated work on "The Human Species," remarks:—

> Now, plants and animals have been studied for a much longer period than man, and from an exclusively scientific point of view, without any trace of the prejudice and party feeling which interferes with the study of man. Without having penetrated very deeply into all the secrets of animal and vegetable life, science has acquired a certain number of fixed and indisputable results, which constitute a foundation of positive knowledge and a safe starting-point. Whenever there is any doubt of the nature or significance of a phenomenon observed in man, the corresponding phenomena must be examined in animals and even in plants. They must be compared with what takes place in ourselves, and the results accepted as they are exhibited. What is true of other organized beings cannot but be true of man. This method is incontestably scientific. Every solution which *makes* or tends to *make man* an exception from those laws which govern other organized and living beings is *unsound and unscientific.*[*]

Dr. Maudsley asserts:—

> The study of the plan of the development of mind as exhibited in the animal, the barbarian, and the infant furnishes results of the greatest value, and is as essential to a true mental science as the study of its development is to a full knowledge of the bodily organism.

Those who have read Lavater's renowned work on physiognomy, will doubtless look for some theoretical testimony from his facile and prolific pen. Now, although Lavater wrote many volumes on physiognomy, and was himself a great *intuitional* physiognomist, he was, unfortunately, not a scientific student. He says of himself that he did not understand anatomy and physiology, and without a thorough knowledge of these sciences it is impossible to found a system of physiognomy. At the same time, such was his rare gift of observation and correct intuition, and such his ardor, that, added to his noble character and purity of life, it enabled him to revive the belief in physiognomy, which had waned during the middle ages, or had become classed with the "black art" and works of magic. And this pure-minded minister of the gospel was received at the courts of kings and princes, and his observations and researches were hailed with enthusiasm by the most eminent men of his day. His writings, although they lack system and are really what he terms them, "Fragments" merely, restored physiognomy to that rank which it had held in the estimation of man two thousand years before, when such great minds as Plato, Galen, Aristotle, Pliny, Cicero, Seneca, Hippocrates, and others as learned and renowned, had written upon and taught physiognomy as an art. From Lavater's day to the present, a period of over one hundred years, inventions and discoveries of mechanical instruments and principles have given us means of investigating the human body and mind, wholly unknown to any former age of the world.

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[*] The Human Species, M. de Quatrefages, p. 27.

THEORY OF PRACTICAL AND SCIENTIFIC PHYSIOGNOMY.

The theory of mental science which I shall present to you is the most advanced and comprehensive that has ever been offered to the world, and to the discoveries made by the microscope and in anatomy and physiology I am largely indebted for the discoveries which I have made in this department of science.

Let it be understood at the outset, that physiognomy teaches and proves that the mind and body are a unity, acting in unison and harmony; that all mental power is originated primarily by sensation; that *all* parts of the body contribute to mental action; that the heart, the liver, the lungs, the kidneys, the glands, the muscles, the bones, the nerves, and all other organs are each instrumental in creating and assisting mental efforts. This system also teaches that there is a unity of action and universality of law running from the lowest creation, the inorganic or mineral, up to the highest, the animal and human kingdoms. It shows, too, that *all form* has meaning and character, that *every form* observed in Nature is shaped by law and design, and discloses the character of the mineral, plant, tree, or animal under observation. This system of physiognomy goes still farther. It proves that certain *physical functions are directly related to and sustain certain mental faculties.* The idea that all or nearly all parts of the body contribute to mental action was vaguely perceived by some anatomists in the seventeenth and eighteenth centuries. Sir Charles Bell remarks that he had a dim though *strong* conception that it was an error to limit sensation to the action of the special senses. He observes:—

> It appears to me that the frame of the body exclusive of the special organs of seeing, hearing, etc., is a complex organ,—I shall not say of *sense*, but which ministers, like the external senses, to the mind.*

George Henry Lewes, one of the most philosophic and scientific writers of our era, remarks:—

> If every distinct part of the organism which is the source of distinct sensation is to be called a sense, we must necessarily include the muscles and viscera among the senses, for the sensation derived through the muscles are as specific as those derived through the eye or tongue, and the glandular sensations are assuredly distinct from those of the muscles. The sensations derived *through the viscera* are not less specific nor less important than those of the eye or ear. We are not at liberty to reject this fact, because it is capable of proof as rigorous as the proof of the existence of sight or taste. *Mind is the sum total of the whole sensitive organism; no one exclusive organ of mind can be said to exist.*†

In this theory and its proof lies the greatest advance made in mental science in this era. The celebrated gentlemen whom I have mentioned as having taught that mind inheres in the entire organism stop short at that theory, but scientific physiognomy, as taught by this system, goes farther, and proves the relation between Conscientiousness and the kidney or fluid system of the body; between Benevolence and the glandular system; the relation of Amativeness, or the love of the sexes, to the reproductive system; of Hope to the liver; and, in short, proves that all so-called sentiments have a *physical* base as well as a representation in the brain, which organ may be likened to the counting-house of a manufactory, the emotions being manufactured by the muscles, nerves, and viscera, and *registered* in the brain, where consciousness and abstract thought has its home and origin; and, lastly, shows that all this is revealed in the face, as well as by the voice, the walk, the color, movement, gesture, etc.

A practical application of the laws of scientific physiognomy is the only method that can make possible race improvement by intelligent design. As long as the human face is a sealed book, men and women cannot intelligently choose partners in marriage, and the progress of the race will be left to natural selection, which is a slow process, as we observe in the present instinctive methods. But where reproduction is the result of laws intelligently understood and applied, there is no reason why the races of man should not advance in nobility as rapidly and surely as have the scientifically-bred animals of the past few years. Aristotle tells us that

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* The Anatomy and Philosophy of Expression, Sir Charles Bell, M.D., p. 88.
† Physiology of Common Life, G. H. Lewes, p. 194.

"a life devoted only to sensual enjoyments is brutish, an ethico-political life is human, but a scientific life is divine." If by a scientific life he meant living up to the laws of God as shown by the laws of Nature, I can wholly and heartily agree with him.

In announcing the discoveries which I have made pertaining to the human physiognomy, it may not be uninteresting to the reader to know in what manner they were reached, what mental process or scientific observation was required to elaborate the system setting forth the three grand divisions of the face, and why I denominate them the Chemical, the Architectural, and the Mathematical. In the first place, my studies in anatomy and physiology had shown me that the action of the glands is purely chemical, and, as I found that the development and normal action of this system were most apparent in the lower part of the face,—in the cheeks (as is observed in healthy infants), in the lips, and adjacent parts,—it occurred to me that this part of the face must represent the purely chemical or vegetative department of the human organism. Knowing as I did that nearly all the principles of mechanical forces were illustrated by the action of the several lever powers in the movements of the muscles and bones, of the hinge in the joints, of the pulley in the muscles of the eye, of valves in the heart and arteries, while the principles of optics are exhibited in the eye, the principles of acoustics in the construction and action of the ear, the principles of hydrostatics and capillary attraction in the veins, tubes, and tissues of the several parts of the body; knowing that electricity is a property of the nerves and magnetism of the muscles, I saw that these several systems constituted a mechanical or an *architectural* system, the signs for which I have discovered are located in the middle portion of the face.

When I had discovered and located the signs for the heart, the lungs, the liver, the muscular, the nervous, and bony systems, logic came to my aid, and I argued that if the signs for chemical action and architectural powers were to be found in the human face I must look there for the signs of the mathematical powers also. I had years previously ascertained by observation and reflection that these three laws or principles govern all matter. Reflection soon convinced me that in the upper part of the face I should find the signs for mathematical power indicated, and, as in the upper part of the forehead we have the signs for Logical Deduction, or reason, so in the lower part of the forehead are located the signs for Form, Size, and Calculation. I at once saw that here were the signs for the last of the three ruling principles needed to complete the harmonic system of laws which underlie *all matter*, and of which man is the highest expression and exponent.

Is it not logical to infer that in the countenance of man (which is certainly the most perfected object that the human mind has ever studied) should be found concentrated and combined all the general principles which assist in the formation of man's organism? I know that this is a novel theory, and one perhaps as startling and revolutionary as was Newton's theory of the law of gravitation, but, as time rolls on, a scientific knowledge of man and of his physiognomy is as certain to evolve as is the knowledge of the laws of light, sound, color, and other abstruse departments of natural law. The proof of my theory is so easy of verification that any person of ordinary observation and reflection can satisfy himself experimentally of its truth. I now address myself to scientific thinkers and those accustomed to investigating the correlations of the laws and forces of Nature, and I ask them if it seems to them unreasonable or illogical that the basilar laws of all the lower creations should find illustration in man and his countenance? When we reflect that man is the outcome or evolutionary product of all the lower kingdoms, mineral, vegetable, and animal, it should not seem improbable that man's face, read scientifically,—that is, according to his physiological and anatomical organization,—should typify and disclose the action of all these formative and creative powers.

The general laws and principles enunciated in this chapter, together with the connection of physical functions with mental faculties, will appeal the strongest to naturalists, scientists, and physicians,—those who are accustomed to observe in Nature's processes the action of that law discovered and set forth by the eminent Baron Cuvier, viz., the law of the correlation of organs, "according to which a certain conformation of structure in one organ is always found in conjunction with a certain conformation in another." Now, under the operation of this law it is quite safe to predict the existence and presence of certain mental faculties by observing the signs for certain physical functions in the face; as, for example, where the signs for Amativeness and Love of Young are exhibited in a highly developed degree the sign for the glandular system is also well defined, and the same is true of other faculties and functions. Not only do we find that certain faculties are correlated, but that certain physical functions and mental faculties are always observed to develop *pari passu.* Another proof of this interaction is shown where the sign for a faculty is small in the face and the action of its related function is weak and correspondingly undeveloped in the body. as, for instance, where the sign for Hope is small in the face the activity of the liver is correspondingly feeble. Later on all of the various organs will be treated of in this connection.

THE HUMAN FACE THE INDEX OF ALL NATURE.

Standing at the apex of all creation is man, the very epitome, sublimification, and essence of creative energy. What more natural, then, that in this high and complex organization should be found in combination all of the components of what may be termed the lower creations?

Man is literally made of the "dust of the earth." Considered as a chemical compound, man will be found upon analysis to be composed not only of the "dust of the earth," but also of nearly all the primitive elements contained in the earth. In his composition will be found oxygen, nitrogen, carbon, hydrogen, calcium, iron, sodium, chlorine, sulphur, phosphorus, potassium, and a small amount of other minerals.

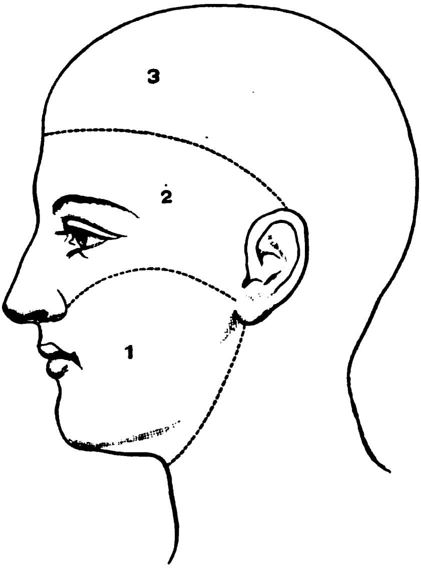

FIG. 1.—THE THREE GRAND DIVISIONS OF THE FACE.
1, Chemical; 2, Architectural; 3, Mathematical.

In the face of man will be found, by dividing it into three grand divisions, the signs of character representing the three basilar principles underlying all matter, as well as man's own organism, viz., those of Chemistry, Architecture, and Mathematics.

If one examine closely a grain of sand, and enters into an analysis of its constituents, he finds that it has, first, chemical properties,—a portion of one kind of element, another particle of some other sort; perhaps several other elements enter into its constitution. These various elements have an affinity for each other and harmonize in their combination. This is the power which binds them in one and forms them into a *chemical compound.*

Upon further examination it will be found to possess a definite *form.* In the case of crystals of the various minerals this form is always defined by *law*, and the mineralogist recognizes each object by its *form.* This natural law of shaping of all objects, both animate and inanimate, is an illustration of *architectural law.* If the crystals be reduced to their elementary particles the *number* of their constituents is discovered. This is the mathematical law exemplified.

All creations, from a grain of sand up to the planetary bodies, have their *chemical properties*, their *architectural formation*, or shape, and the *number* of particles which *mathematical law* requires for their completion.

The same constituents which compose planets, which form minerals as well as plant, insect, and animal life, form also man's organism. These elementary constituents bring with them into man's body their *basic principles*, and wherever we find man we can but observe that in the chemical action of the elements composing his body and surrounding him,—that in his *form* and *proportions*, and in the *number* of elements entering into his constitution,—the same laws of chemical action, of architectural formation, and of mathematical quantities or particles which govern all other departments of life are as potential in fashioning him and in determining his character.

In this wonderful microcosm, as exhibited in man's face, we find illustrated in its three divisions the signs of character which denote man's ability to be either chemical, architectural, or mathematical, or, in other words, exhibiting vegetative, constructive, or reasoning power. We shall find, upon investigating the lower organisms, whether of plant, insect, or animal life, that *chemical* action is the primary mode of organization, next that the *formative*, or architectural, follows chemical action, and the perfection or completion of the life of all organisms requires the full and complete *number* of particles of matter which compose its entirety, thus illustrating the mathematical law which dominates every department of organic and inorganic life.

In the mineral world we find, as I have previously stated, that chemical action precedes formation, and that formation produces the *number* of faces or sides and angles which each species of mineral assumes, and mineralogists are able to classify each mineral by its architectural or geometrical formation.

MINERAL FORMS.

The first and most primitive formations of any kind whatsoever are found in the crystals of minerals. Here, at the very beginning of inanimate organization on the globe, the *law* of *Form* discloses its supremacy. This law is dominated by the law of *Number*, which lies at the base of all things in existence, and from Number Form proceeds. Although minerals are inanimate, they have their precise laws of shaping as set and rigid as those that form the plant, the animal, or man. They fall into shape by *law* and *design*. They are not chaotic, shapeless masses of matter, but in their interior, microscopic, molecular construction, as well as in their completed outward shape, they afford us fine illustrations of the dominance of the law of Form, which is exhibited in a much more *complex* manner in higher organizations, in the vegetable, animal, and human kingdoms. After minerals have become solidified by passing through the chemical processes of heat, incandescence, vaporization, or by condensation, as water does in freezing, they each assume a *definite* and diverse fixed form, each one differing from every other, and by their forms alone mineralogists are able to say to which class each belongs, and can also state their properties by inspection of their forms. An *inherent* law of shaping causes one mineral to form crystals which are cubical in form,—salt, for example,—while another assumes six-pointed sides or prisms, as exhibited by quartz.

> The most plentiful mineral—water—becomes solid at 32° F., and then crystallizes and constitutes snow or ice. Flakes of snow consist of a congeries of minute crystals and stars, and may be detected by a glass.*

One significant fact in regard to snow-crystals is that, although many hundreds of different shapes have been observed and figured, they all with singular unanimity show that the laws both of Form and Number preside over their construction, for without exception they present six points or rays, as shown in Fig. 2, E, F, G, regardless of the peculiarities of their formation. Thus it is shown that the number six is the underlying law which controls water when it assumes a solid form.

Of the identity of the various mineral species, Professor Dana tells us:—

> The true foundation of a species in mineralogy must be derived from crystallization, as the crystallizing is *fundamental* in its nature and origin; and it is now generally admitted that *identity of crystalline form and structure is evidence of identity of species.*†

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* Manual of Mineralogy, J. B. Dana, p. 78.
† *Ibid.*, p. 74.

As we proceed in the study of physiognomy the reader will find that the highest expression of divine architecture—the human face—combines and illustrates all of the primary elements of Form which are exhibited in the structure and form of all minerals. These elements are the point (or central axis), the sphere, the line, the angle, the square, and cube. The sphere is represented by the spherical molecule, which it is now known that the mineral assumes while in a state of fusion or incandescence, as I have shown in the chapter entitled "The Basic Principles of Form." From these few primary elements of Form all other forms are derived by multiplication or combination. Of the constancy of crystalline forms in the mineral kingdom Professor Dana observes:—

> Each mineral may be properly said to have as much a *distinct* shape of its own as each plant or each animal, and may be as readily distinguished by the characters presented to the eye. Crystals are therefore the *perfect* individuals of the mineral kingdom. The mineral quartz has a specific form and structure as much as a dog or an elm, and is as distinct and unvarying as regards essential characters, although, owing to counteracting causes during formation, these forms are not always assumed. In whatever part of the world crystals of quartz may be collected they are fundamentally identical. Not an angle will be found to differ from those of crystals obtained in any part of this country. The sides of the faces vary and also the number of the faces, according to certain simple laws hereafter to be explained, but the corresponding *angles of inclination* are essentially the same, whatever the variations or distortions.
>
> Other minerals have a like constancy in their crystals, and each has some peculiarity, some difference of angle, or some difference of cleavage—structure—which distinguishes it from every other mineral. In many cases, therefore, we have only to measure an angle to determine a species. Both quartz and carbonate of lime crystallize at times in similar six-sided prisms, with terminal pyramids, but the likeness here ceases, for the angles of the pyramids are quite different and also the internal structure.*

Minerals, like plants, animals, and human beings, possess many other properties besides form, number, and chemical constituents. These are primitive, or fundamental, common to each kingdom of Nature. The mineral possesses other properties, among which are lustre, color, diaphaneity, refraction, taste, odor, magnetism, electricity, specific gravity, density, luminosity, and phosphorescence. It is thus shown that although minerals are not vital, animate objects, they yet possess many characteristics which are observed in plant and animal life; it is from these fundamental sources that these very qualities are obtained, for the higher manifestations of life derive these qualities from the foods grown upon the mineral soil, and bring up into the plant, animal, and human being the same elements of form and color, and other properties with which the mineral abounds. All the primitive mineral ele-

* Manual of Mineralogy, J. B. Dana, p. 22.

ments and primary forms of the mineral are found in the human body and are illustrated and revealed in his face,—the most wonderful evidence of the harmony of Nature's laws in the universe.

Fig. 2, shown below, discloses the supremacy of the law of form in several of the best-known minerals.

In the shells of the ocean we observe that the same laws govern their formation, and that the "mollusk forms a perfect geometrical curve, and proportions the size of its valves to the distance between them."

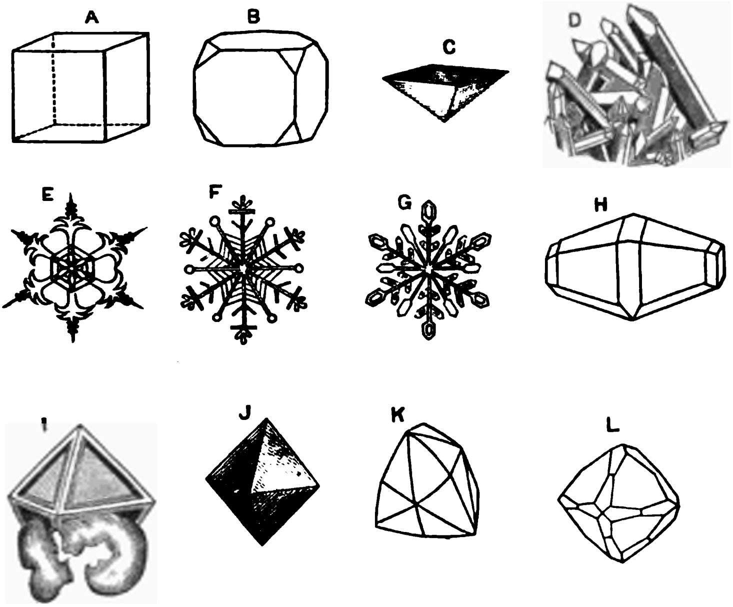

FIG. 2.—MINERAL FORMS.

A. B. C. common salt: D. quartz; E. F. G. snow; H. sulphur; I. J. gold; K. L. diamond. Common salt crystallizes in cubical forms, as shown in A. B. C. Quartz, D. always crystallizes in six-sided pyramids. Snow assumes many forms, yet they all express the dominance of the number six, as exhibited by the diagrams E. F. G. Sulphur appears in octabedral forms, and is yellow in color, as in H. Gold, I. J. has several forms and is of a yellowish color; its crystals are cubical. The diamond, K. L. is a crystallized carbon, and is found in octahedrons, dodecahedrons, and other complex forms. After cutting it appears in various forms, as seen in the above figure. [NOTE.—These illustrations are from works on mineralogy by Prof. J. B. Dana.]

Mathematical law governs in the vegetable kingdom, and regulates by number the petals, sepals, stamens, pistils, and leaves upon every blossom and branch. In the human family the *number* of bones, muscles, joints, etc., proves its dominance, and wherever we look we must admit that these three great laws are universal and general. It is thus shown that man, in himself, in his own person, typifies all creation, proving that he is the very essence, the subtle, refined organization or force evolved from all forces, powers, causes, and chemical activities in the universe, and that the *face* of man reveals the action of all these laws.

A correct understanding of this grand organization is the first science in the world, the first in importance to each one of us. It has its laws, which are exact and yet complex; but where is the reader skillful enough to understand them? As Nature is perfect in her works, and has made few laws so mysterious as not to be comprehended, is it not natural, then, to infer that man is capable of understanding his own organization and the laws which govern it? He may, if he will but seek the truth and fear not.

As the dial is to the clock, so is the face to man; it is his exponent, morally, mentally, and physically; on it are written not only his mental powers, his moral strength or weakness, but also his physical capacities, powers, weaknesses, predispositions to health and disease, and there is no one of ordinary capacity who cannot perceive these signs almost at a glance. The importance of this knowledge is incalculable. Inasmuch as we all have to pass our days in intercourse with our fellows, it is of the greatest importance not only that we should understand ourselves, but also that we should be able to comprehend to a nicety all with whom we associate, not merely for our protection and the pleasure we may derive from it, but also for the good we may do. Again, this knowledge will teach us that what we now call "charity" in overlooking the faults and weaknesses of others is but simple justice, for it is not just to expect something different of an organization than Nature has given it power to accomplish. Therefore, we may spare our charity and, through knowledge, give *justice.*

The three grand divisions of the face—namely, the Chemical, the Architectural, and the Mathematical—have also their subdivisions. The Chemical includes and reveals the signs for the moral, the domestic, and the supplyant powers; the Architectural, the faculties which indicate the building, artistic, religious, and literary traits; and the Mathematical includes the reasoning powers, which are the chief faculties in numerical demonstration.

Within the three grand divisions of the face we find the facial indications of *five* different systems of functions which create the different forms of man, and which are always found in combination, but in different degrees of development in different persons. These are named the Vegetative, the Thoracic, the Muscular, the Osseous, and the Brain and Nerve systems. Upon the different degrees of development of these several conformations depends man's power for being mainly either chemical, architectural, or mathematical

The organization, which is mainly chemical in its operation and effects, is known by a predominance of the vegetative system, and is accompanied most largely by all those functions which serve to supply the body with material, and for the protection and procreation of the race. The functions included in this division of the organism are those of digestion, reproduction, respiration (through the mouth), secretion, excretion, and growth. These functions are productive of the following faculties: Conscientiousness, Firmness, Benevolence, Amativeness, Love of Children, Mirthfulness, Approbativeness, Modesty, Self-esteem, Friendship, Digestion, Bibativeness, Sanativeness, Hospitality, Pneumativeness, Color, Economy, Love of Home, and Patriotism. These include in their action all the laws common to vegetable life, and the development of all these traits proceeds mainly from chemical action, as, for instance, the sustentation of the body and the procreation of the race. These operations are almost entirely chemical.

The architectural division is shown by a predominance of the muscular, thoracic, and osseous systems, which embrace within their own action almost *all of the principles of mechanical forces*, such as the different lever powers, different principles of valves, and the representation of a pulley (in the action of the superior oblique muscle in rotating the eye); also other mechanical powers which will be mentioned hereafter. The traits indicated in this division are: Force, Resistance, Secretiveness, Hope, Cautiousness, Analysis, Imitation, Ideality, Sublimity, Human Nature, Constructiveness, Acquisitiveness, Veneration, Executiveness, Self-will, Credenciveness, Prescience, Observation, Memory of Events, Form, Size, Weight, Order, Calculation, Locality, Music, Time, Language. You will observe by these names that the artistic and religious faculties are included in this as subdivisions.

The mathematical division of the face has its work performed mainly by the brain and nerve system. The faculties shown in this division are named Time, Order, Causality, Comparison, Intuition. The several systems of the body and faculties of the mind act and react upon each other and sustain inter-relations to each other, but each division is mainly sustained by the action of the system to which the several different parts of the face indicate it as belonging.

As I have before stated, the principles of physiognomy are founded on the same general laws which underlie all matter, but they have for their demonstration special laws. When we reflect that brain-matter in the form of nerves and nervous ganglia, as well as the muscles, are instrumental in producing mental manifestations, we must at once conclude that the rather contracted views and theories of the ancient metaphysicians and modern phrenologists must give way to more extended and well-demonstrated *facts*. The entire surface of the body, being covered with a cuticle upon which a fine net-work of nerves ramifies, gives us a very extensive sense-organ, and makes us cognizant of temperature, tactile sensations, and pressure, and by the aid of these several sensations very many *mental* impressions are conveyed.

The theory of mind which is set forth in this system of physiognomy is more comprehensive than any which has been given hitherto. Many advanced and eminent scientists and physicians to the insane have recently become imbued with the idea that the brain is not the *sole* and *exclusive* mental organ, but that the muscles and the nervous ganglia and plexuses of human and animal organisms *may* be of a mental character and exhibit or assist in illustrating mental manifestations. Not only is the idea held that the nerves and muscles are contributive to mental power and expression, but it is found that the several organ-systems within the body, as, for example, the heart, the liver, the lungs, the glands, and kidneys, also promote and are the direct cause of what has hitherto been held to be produced by brain-power exclusively. This supposition arises probably from the fact that all of these organs have *representation* in the brain through their connection with the great sympathetic chain of nerves and ganglia, entitled the nervus vagus. Among those who advocate this theory as probable I may mention George Henry Lewes, Dr. Henry Maudsley, Dr. Alexander Bain, and Dr. J. Lauder Lindsay,—men whose opinions are received with credence and respect.

Those who have passed years in the study and investigation of any branch of science are presumed to be more learned on the subject of their pursuit than those who have given it little attention, and I hold that the opinions of the former are entitled to the credence and respect of the latter. Believing this most fully, I append the following extract from the work of Dr. Alexander Bain, who, in his celebrated volume entitled "Mind and Body," remarks as follows:—

> Yet although the brain is by pre-eminence the mental organ, other organs co-operate; more especially the senses, the muscles, and the great viscera. So far as concerns the entire compass of our feelings or emotions it is the universal testimony of mankind that these have no independent spiritual subsistence, but are in every case embodied in our fleshly form. This very strong and patent fact has been kept out of view in the multifarious discussions respecting the immaterial soul. Apparent as it is to the vulgar, and intently studied as it has been by the sculptor, the painter, and the poet, it has been disregarded both by metaphysicians and by theologians when engaged in settling the boundaries of mind and body.*

On this same point Dr. Henry Maudsley observes:—

> We cannot limit a study of mind even by a full knowledge of the functions of the nervous and muscular systems; the *organic* system has most certainly an essential part in the constitution and functions of mind.†

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* Mind and Body, Alexander Bain, LL.D. (Humboldt Library), pp. 2 and 3.

† Body and Mind, Henry Maudsley, M.D., p. 34.

Elsewhere he remarks:—

> The internal organs are plainly not the agents of their special functions only, but by reason of the intimate consent or sympathy of functions they are essential constituents of our mental life.*

In corroboration of the views of the highly respected gentlemen above quoted, I add the following from the pen of George Henry Lewes, who observes:—

> I do not agree in the opinion respecting the brain as the organ of the mind; one of the principal conclusions to which fact and argument will direct us in these pages will be that the brain is only *one* organ of the mind, and not by any means the *exclusive* centre of consciousness. It will be understood by the word Mind we do not designate the intellectual operations only. But the word Mind has a broader and deeper signification; it includes all *sensation*, all *volition*, and all *thought.* It means the whole psychical life, and this psychical life has no one special centre any more than the physical life has one special centre; it belongs to the whole and animates the whole. The brain is a part of this whole, a noble part, and its functions are noble, but it is only the organ of special mental functions. It is not the exclusive sensorium, and its absence does not imply the absence of *all* consciousness. It cannot, therefore, be considered as *the* organ, but only as *one* organ of the mind.†

The following from the work of Dr. J. Lauder Lindsay, entitled "Mind in the Lower Animals," will not be without interest, and is entitled to our respect in consideration of the source whence it emanates. Dr. Lindsay has been for many years at the head of an institution for the insane in Scotland, and is also a Fellow of the Royal Society of England. His investigations of diseased mental peculiarities of the insane have opened the way to an understanding of the *locale* of the mind, and he states his belief of its location and action thus. He remarks:—

> The student of comparative psychology cannot too soon divest himself of the erroneous popular idea that brain and mind are in a sense synonymous; that the brain is the *sole* organ of the mind; that mind cannot exist without brain; or that there is any necessary relation between the size, form, and weight of the brain and the degree of mental development. Even in man there is no necessary relation between the size, form, and weight of the brain and the degree of mental development, while the phenomena of disease in him show to what extent lesions of cerebral substance occur without affecting the mental life. Physiologists are gradually adopting or forming a more and more comprehensive conception of mind, and are coming to regard it as a function or attribute not of any particular organ or part of the body, but of the *body as a whole.*
>
> Long ago the illustrious Milton, discoursing of mind and its seat, properly described the human mind as an attribute of man's body as a whole. In various forms and words this view has been expressed in recent times by Muller, Lewes, Laycock, Bashman, Bastian, Maudsley, Carpenter,

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* *Ibid.*, p. 38.

† Physiology of Common Life, G. H. Lewes, Part II, p. 8.

and others. According to these authors, "the seat of mind is throughout the body" (Muller); "mind pervades the body" (Laycock and Bashman); "mind comprehends the bodily life" (Maudsley); "psychical life has no one especial centre" (Lewes); "the whole nervous system is the seat or organ of the mind, the brain being only its chief seat or organ" (Bastian). The brain, then, is only *one organ* of mind,—the organ, it may be said, only of *special* mental functions. The old doctrine or assumption of the phrenologists, as represented by Gall and Combe,—the doctrine in which they have so greatly prided themselves and foolishly continue to do so,—that, namely, which regards the brain as the *sole organ* of the mind, must unquestionably be given up. We must henceforth regard the true site, seat, or organ of the mind as *the whole body*, and *this is the only sound basis* on which the comparative psychologist can begin his studies. There would be the less difficulty in accepting such a basis were it only borne in view that the *muscular* as well as the nervous system, that muscular action has an intimate relation to mental phenomena,—to *ideas* as well as feelings. "*Muscular action is essential in certain, if not in all, mental processes,—e.g.*, in feeling or emotion, outward muscular expression (*i.e.*, facial), and inward ideas and feelings are inseparately correlated" (Maudsley).*

There are many more of our leading physicians, anatomists, and naturalists of every nationality who believe and demonstrate the theory of the *physical basis of mind*, but enough evidence from the writings of the most eminent has been adduced to assist the reader in gaining a knowledge of the course I propose to take in this work. Further evidence will be presented as the reader advances.

It has been reserved for me to extend their theories and observations to a finality, and to show that mental faculties are directly related to and sustained by the action of physical functions, and also to prove by the face the direct connection of physical functions with mental faculties. The diffusive *locale* of the mind will become more and more apparent as the *rationale* develops, and I believe that the proofs will not be wanting to substantiate my position.

I maintain that nearly all errors in regard to man—his life, his surroundings, his relations to them and their relations to him, his religion, his sense of right, his misconceptions of beauty, his exceedingly scant knowledge of governmental principles—proceed directly from utter ignorance of himself; and, while he has a knowledge of the planets, stars, winds, rocks, beasts, birds, snakes, and animalculæ, he does not know the laws which govern his own body. He understands not one single sign of character as indicated by the face; he knows not the meaning of different voices; the walk of man conveys to him no meaning; the color of the eyes and hair declare nothing to his sense of sight. He is like a mole groping in daylight. He plans and executes grand enterprises; he spans continents; he examines the character of the uttermost stars; calculates eclipses; traces the paths of comets to remote ages; understands to a nicety the great world and the little world as shown by the telescope and the microscope, and yet cannot sound the depths of his child's character, which appear to him unfathomable. Why is this? Is it because the science of man is more abstruse and occult than all others? Because it belongs to the unknowable? Not so. It is because he has not thought of these things, and because he has not been taught them as he has the other sciences. I regard it as the most simple of all sciences, the most easily demonstrated, the most essential to human happiness and welfare.

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* Mind in the Lower Animals, J. Lauder Lindsay, M.D., Part II, pp. 3, 4.

And until the science of physiognomy is commonly understood, government, as a science, cannot go forward. Legislating for beings of the laws of whose existence one is in utter ignorance is an absurdity and will fail. Not until the masses can put themselves in harmonious relations to their environment can government go forward, and this can result only from a complete knowledge of man, his capacities, his needs, and his possibilities. This knowledge proceeds only from a scientific study of himself. When man becomes convinced that his face registers his life, and that "he who runs may read" what he has been about, and that he cannot hide his inner self from the gaze of the world, he will endeavor to make his life so good and so noble that he will not be ashamed of the most rigid scrutiny, because it is only in thus doing that he will be enabled to have either a character or a reputation. "Experience daily declares that certain irregular and vicious propensities impress very sensible traces on the countenance. The surest method, then, to *embellish* our physiognomy is to adorn the mind."

Physiognomy as a science, with rules and established principles so plainly set forth as to be comprehended by the masses, had never been given to the world until my recent publication. Lavater possessed the power of reading the human face intuitively, but he has left among his writings no rules nor principles by which students can learn this science. The best book and school for students is Nature. Still, a keen observer may record such discoveries in this field as to be a benefit to coming generations. This science is gigantic in its proportions, and when we reflect that there are in the world no two organizations with exactly the same combinations of traits we see that the field is wide, with room for many observers. I leave the case in the hands of the scientific, the logical, the unprejudiced reader. My motives are based on a love of humanity, nature, and truth, and will enable me to reject any idea, however much I may respect it, if it be found untrue and unscientific.

All true lovers of humanity must surely take as great interest in promoting the right generation of the race as in regenerating the defectively organized. A scientific knowledge of the face of man is the first step toward this great work; the next is the union of suitably adapted men and women for parentage,—those who, by the union of their traits and physiological powers, would produce a higher type of children than they could were they unsuitably united. In order to bring about this much-to-be-desired result a certain degree of *positive* knowledge of the human face and body is essential. This course demands that some factors other than "blind love" be brought into the marriage relation to sanctify it. In this sacred relation there should be no "blindness." Cupid should be *all* eyes. This course, then, presupposes a recourse to observation and reason, to love of purity, noble traits, and righteousness,—in short, to scientific religion.

The motive which attracts the majority of men and women to matrimony could be shown to be nothing higher than animal magnetism or instinct, if the truth were told. Probably most people never pause to analyze their feelings on this subject. It is upon this self-same plane that animals mate. Should not lovers of humanity and of religion act from higher motives than those which move the lowly beasts of the field? The object of this book is to afford the assistance necessary toward the right generation of mankind and the creation of the highest types of human beings possible under our present limitations. Its laws and principles, being founded on Nature, will teach how to distinguish the false from the real, for the "laws of Nature are the thoughts of God," and science, being an exposition of the laws of Nature, deals with realities and demonstrable theories.

CHAPTER II.

THE BASIC PRINCIPLES OF FORM.

"The philosophy of expression is based on the science of human nature. The science of human nature involves a knowledge of universal and eternal nature. The microcosmos is an epitome of the cosmos. Man when thoroughly comprehended is a key to eternal nature, but again he who fails to comprehend nature fails to comprehend himself."—J. BUCK, M.D.

"The human frame, unlike that of the animal, is co-ordinate with the whole eternal universe. It is an organization correlated and responsive to the entire series of the natural creation. The brain is a form of the elemental kingdom, the lungs of the atmospheric world, and the abdomen of the terraqueous globe."—SWEDENBORG.

THE basis of all form is motion. The basis of time is also motion. The basis primarily of form, motion, and time is numerical, or mathematical. These profound truths were wrought out by the Greek philosophers; for it was Plato who exclaimed: "God perpetually geometrizes." All motions, forms, distances, spaces, and chemical products are resolvable into numbers. The chemical constitution even of all matter is a question of atomic proportions or quantitative particles, and primordial chemical atoms must present specific *forms*, or possess *weight*, and are *posited* in space, and subject to the laws of *time* or duration. These chemical atoms or gaseous quantities as they rise into form (as in the motion and shape of the planets) become more and more the subjects of mathematical laws, as they become more and more complex in their structure and movements. The laws of all structures whatsoever are deducible from this single science, mathematics. In the first condition of atoms, the *number* of particles of which they are composed, or their weight (as in gases) is their prime factor. The next ruling principle is the *form* which they eventually assume. This is geometrical and numerical as well, for all lines running in any direction create shapes; more particularly is this the case when concreted with substance, as in the form of planets or of vegetable or animal cells or structures.

Another property of an atom, a planet, a mineral, a plant, or an animal cell, is its chemical or real character-condition. Which comes first? The chemical quality of the atom, the numerical quality, or the form which is necessarily a part of these objects? It must be supposed that the elementary or primordial nebula is homogeneous, without "form or void." Yet the principle of number presides over this state of being, for nebulous matter must possess weight, and this is the fundamental basis of all shapeless substances, ethers, and gases, as well as of objective forms; hence chemical character and the principle of number or of weight are co-existent in primordial matter, and thus represent the positive and the negative principles,—the father and mother,—substance and number, or the parental and conjugal condition of the first beginnings of planetary life. Stated in other words, there must be something to weigh or measure before it can be measured or weighed, and this something must have a qualitative basis, and this again is reducible to mathematical condition by its specific gravity or weight; thus substance and number are a unity and convertible terms. They become a trinity when a form is assumed; thus we have the basis of the universal *trinity*, three in one, and this trinity is well illustrated in the three grand divisions of the human face.

View the question as we may, we are led by the irresistible force of truth and logic to the conclusion that number or mathematics lies back of all these phenomena; also, that number and form are indissolubly united, and that in the structure of everything in Nature the chemical property is equally essential. It is thus we find that *number*, *form*, and *quality* are at once the unity and the trinity which preside over the initiation of being, either animate or inanimate. In other words, chemistry, architecture, and mathematics rule everywhere. These three ruling principles are dominant in every minute microscopic cell of animal and vegetable life, and their action can be analyzed and verified. The same principles govern man's entire organism, and their action can be discovered and demonstrated in his face,—the highest specimen of divine architecture in the universe.

The form of the ultimate mineral atom, or the smallest particle conceivable by the human mind, has been demonstrated by the most eminent physicists to be spherical. Silliman, in his "First Principles of Philosophy," page 6, tells us that "the second theory brought forward by Wollaston, in 1824, but more fully developed by Ampère, supposes each ultimate atom to be a sphere, possessed of certain forces of polarity, which tend to produce the various forms which crystallized bodies assume." The verification of this theory has been made and still further elaborated by the researches of a French chemist, as mentioned by Comte; he says:—

> A French chemist, M. Brand, has quite recently made a wonderful discovery, which, if it be established, shows that previous to crystallization certain bodies assume an embryonic cellular condition, the outgrowth and

consequence of which is a crystal; and what is still more remarkable in this cellular embryo, not only has the microscopic cell an enveloping membrane, inclosing within it a soft, semi-transparent matter containing vapor, which when condensed forms a crystal, thus furnishing a "cell-membrane" and "cell-contents," but these cells assume an arrangement analogous to that of the organic tissues.*

In observing the external forms of the various mineral crystals, we find that they have assumed various angular shapes, such as hexagonal, rhomboidal, cubic or tetragonal. Now, these forms are built upon a number of spherical cells, which shapes have been assumed by the minute molecules of mineral matter while in a state of incandescence or while gaseous. On this point, Professor Silliman observes:—

> The form of the ultimate crystalline molecules is supposed to be spherical for the cube and other mesometric forms, spheroidal for the square prism, and ellipsoidal for forms of the last four systems. The ellipsoid is either that of revolution, that is, a form produced by the revolution of an ellipse upon one of its axes, or it is a flattened ellipsoid.†

The further elucidation of primitive or Nature forms is thus stated. He observes:—

> The raindrop falling from the cloud, the mottled lead from the tower, each assumes the form of spheres before reaching the ground. The celestial bodies, it will be remembered, also approach this form.‡

The evidence here presented by Professor Silliman of the uniformity of the spherical form in elementary mineral molecules might be added to indefinitely from the writings of other physicists, but sufficient is here noted to prove that the universal law of primitive forms is expressed by spheroidal shapes. Now, this evidence is not as accessible to the general observer as is the action of the same law in primitive vegetable and animal cells, and these, as all know, are of the same form, or modifications of it, caused by pressure or other external circumstances. Not only do the germs of all life assume this form, but the perfected or matured shape of all things in Nature; such, for example, as the planets, the shape of the trunks of trees, of men and of animals and of their several parts, also present this form or some one of its numerous modifications. When the earth took on its rotatory motion, its vibrations caused it to assume a spherical shape, and this shape became the type of all forms. This form, then, prefigured the ruling or type-form of everything to come. Its motion, also, set up a mechanical law of shaping. So the molecule, the primitive cell of all organic life, and the perfected vegetable, animal, and man, are of necessity rounding, ovoid, or spherical, like their prototypes, the atom and the earth. It is true that the square-built man presents an angular outline as compared with the form of the vegetative infant; yet the primitive law of shaping in the direction of the spherical is dominated by his squared or perfected outline; the manner of the conversion of the ovoid to the square form will be explained later. The underlying principle of form, or the force which is the cause of all formative effort, comes along up the line of progressive growth, bringing with it this dominant law, as well as all other laws and principles, just as the chemical elements of lower organizations are brought up into the human organization, from the mineral to the vegetable, and from the vegetable up through the animal to man. The vegetable and animal derive their support from the mineral, and man is a compound of all.

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* Comte's Philosophy of the Sciences, G. H. Lewes, p. 154.
† Silliman's First Principles of Philosophy, p. 51.
‡ *Ibid.*, p. 27.

Here, then, we have the most primitive, elemental, or Nature form, as the archetype or basic plan of all form whatsoever. This form could only be created by motion and developed by time. The rotatory motion of our planet undoubtedly influences both the form and motion of all natural objects upon it, as well as all of the processes of Nature, such as the circulation of the sap in the cells of vegetation and in the corpuscles of blood; in short, rotatory motion is the origin of form, both animate and inanimate; thus, "when a crystal is broken there is a tendency to repair it; it continues to increase in every direction, but the growth is most active upon the fractured surface, so that the proper outline of the figure is restored in a few hours."* This healing process takes place through the laws of polarity; as its result shows, it is a movement of forces along its line of formation. The reparative and creative forces in vegetable and animal cells are regulated by rotatory motions of the liquid of which they are composed. Building proceeds from a central nucleus outward in all directions equally, producing a globular or spherical form. The nucleus of the cell answering to the axis of the crystal and the electric and magnetic forces at work in building up both the cell and the crystal are doubtless identical, as they operate in the same manner and their results are shown by orderly arrangements of forms, which reveal a wonderful symmetry in the plan of Nature. The *central axis* of the mineral molecule, where the creative forces cross each other to form the angular external shape, is doubtless the most elementary illustration of the law of the angle translated into form, and is the least element of the square and cube which is cognizable to our senses, although abstractly we can think of it in a yet more primitive state. The lines of force cross each other here; hence its force is *central*, just as with the forces which set up development in the vegetable and animal cell, and which finally are the forces which are situated centrally in man's organism, and there continue the processes of growth and development outwardly in all directions to every part of his body. The law of motion as related to organic life is thus described by Spencer. He observes:—

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* Youman's New Chemistry, p. 56. New York.

> Development of life is primarily central. All organic forms of which the entire history is known set out with a symmetrical arrangement of parts around a centre. In organisms of the lowest grade no other mode of arrangement is ever definitely established, and in the highest organisms central development, though subordinate to another mode of development, continues to be habitually shown in the changes of minute structure. Leaving out the rhizopods, which are wholly structureless, every plant and animal in its earliest stages consists of a spherical sac full of liquid containing organic matter in which is contained a *nucleated* cell, more or less distinct from the rest; and the changes that occur in the germ thus constituted are changes that take place around centres produced by division of the original centre.*

The *nucleus*, or germinating spot, and the *axis* of the molecule are similar in action, and the *point* is the form-analogue of both as well as the form-analogue of the sphere and of motion; for motion is produced primarily by rotating spheres and continued by the laws of centrifugal and centripetal motion, in the planet and in the organic cell. No other form but a globular one could create motion; hence it creates rounding forms. The addition of axial or *longitudinal* law of motion to the spherical shows up in progressive evolution very early in development. Of this more complex mode, Mr. Spencer says:—

> From central development, we pass insensibly to that higher kind of development for which *axial* seems the most appropriate name. A tendency toward this is vaguely manifested almost everywhere. The originally cellular units, out of which higher organisms are mainly built up, usually pass into shapes that are subordinate to lines rather than to points, and in higher organisms considered as wholes an arrangement of parts in relation to an axis is distinct and universal. Of animals, the advanced are without exception in this category. There is no known vertebræ in which the whole of the germ-product is not subordinate to a single axis.†

All mechanical forces and powers are rotatory in action. Even the lever acts upon the same principle, for when wielded by the hand of man it describes a segment of a circle, and, like a gesture, produces a circuloid shape through the atmosphere, thus coming

* Biology, Herbert Spencer, p. 133.

† *Ibid.*, p. 135.

under the head of abstract form. "For motion is the *form* of force as form proper is that of substance; and hence the existence and law of force express themselves only through the motions which it causes." *

Mr. Andrews also says:—

> It facilitates the conception of force to ally it with some object which manifests it or in which it is manifested, and no object is more favorable for this purpose than the human body. Force herein derived from its interior source in the mind, and then outwardly upon the limbs and members, and finally through them upon the external objects surrounding the body.†

It is logical to infer that the shape of any object would bear a direct relation in its external form to the internal force creating and governing it. This is undoubtedly true of all natural objects, for as I have shown that the countless motions of the fluids within the body are circular, so the external form in every part partakes somewhat of the same shape. The motions of the celestial bodies, our own planet included, also rotate upon their axes about a common centre, and, all combined, influence the form of everything in the universe. The "ultimate atom" is proven by scientists to be spherical. This being the case, why may not the spirit or law of the primitive atom come into the human body and there form a nucleus around which all the elements of nutrition arrange themselves after the pattern and ideas of the great archetypal plan of the entire universe? There can be no doubt whatever of this being the fundamental plan and design of creative wisdom. It is our high privilege to be able to trace out the operations and relations of this grand and universal plan, and to interpret the meaning of the innumerable forms about us. This can be readily done if we succeed in comprehending the basic principles of form as revealed throughout Nature, who, like the prodigal mother that she is, has strewn the world broadcast with the signs, symbols, and revelations of her designs. This singular coincidence of form is something more than mere analogy; it is the analogy of law showing its power; first, in the most infinitesimal atom of which it is possible to conceive; afterward, manifesting its action in the most perfected form in Nature,—in the head, and body, and face of man. Of the influence of the motion of the earth upon man, Comte remarks:—

> The double movement of the earth, and especially its rotation, may probably be as necessary to the development of life as to the periodical distribution of heat and light. Too much care, however, cannot be taken to avoid confounding the motion produced by the organism itself with that by which it is affected from without, and analysis had therefore better be applied to communicated than spontaneous motion.‡

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* Basic Outlines of Universology, S. P. Andrews, p. 438.

† *Ibid.*, p. 437.

‡ Comte's Positive Philosophy, p. 358.

In this paragraph the great philosopher shows that he recognizes the influence of the motion of the earth upon our lives in a limited manner only, but at the same time proves that he did not go to the foundation of the subject, for had he done so he would have found that the motions of the planet, or the motions of the entire solar system, primarily are instrumental not only in "developing life," but that they also *give form* to all organic life, for, as the rotatory motions of the planets and solar system produce the spherical shape of the bodies influenced, so these same motions in connection with electricity, gravitation, and magnetism set up a sphericity of motion in all of the created processes of cell-building. The same motion is characteristic of the motion of the circulation of the blood in its entire course through the heart and veins, and is also manifested by the rotatory motions of all the juices of the body, as well as of the sap and juices in the various classes of vegetable life. We might follow out the course and influence of this law of motion (although it is complex, I admit), and show that as it is influential and all-pervading, not only in the initiation of life in its most comprehensive sense, but is equally potent in declaring its effects upon our pathway through life; in short, it must exert a *regulative* influence upon all our movements, in individual and associated efforts, hence controls our destiny.

It must be apparent to all those who observe closely and reflect deeply that the movements and conditions of the earth, and other planets as well, have a direct bearing upon the life and destiny of all created beings. There were, doubtless, many grand truths mingled with grave errors in ancient astrology, but, inasmuch as our forms are dependent primarily upon the movements of the solar system, it would not be too great a tax upon our credulity to believe that in many ways the various aspects, conditions, and movements of the heavenly bodies exert a mighty and controlling influence upon our lives. The subject may be too vast and complex for finite minds to grasp completely, yet we know that the appearance of the "sun-spots" is simultaneous with great and important changes in the atmospheric conditions of our own planet. These changes and conditions affect the health and lives of thousands, as the reports of the meteorologists prove; hence, their destiny is influenced by certain changes in the sun, for whatever produces changes in the health of men affects their plans and purposes. The ideas of the ancient astrologers may yet, in part at least, be proven to have a scientific foundation.

As our present knowledge of chemistry grew out of ancient alchemy, and as astronomy derived many of its important truths from the observations and the speculations of the superstitious astrologers, and as astronomy lies at the foundation of all laws and sciences and is based upon mathematical certainty, it would seem that its laws should be in direct relation to our pathway through life and have a governing influence upon human affairs and destinies. I am greatly influenced in the belief that this may be (in the course of time) scientifically proven through my knowledge of the astronomical basis of form, as well as by the striking coincidences which exist between the calculations of certain astrologers and the laws of scientific physiognomy. I am aware that I am now getting into deep water, but if science is to be useful to man its most important application is in the line of prevision (foreknowing), as has been noted by the most eminent minds, and astronomy and the sciences arising out of it are dependent upon mathematical calculations which predict from certain present indications what the future progress, aspects, and conditions of the planets and the weather of our own habitation will be at certain fixed and definite times. The meteorologist foresees and predicts a storm which will pursue a certain path and affect a certain area, and directly the signal service telegraphs its warnings, and thus the mariner is enabled to shape his course so as to avoid the threatened danger. The astronomer by his calculations is able to predict with certainty the eclipses for hundreds of years to come, and other planetary changes which affect life here. Hence this science is most eminently "previsional" in its operations. The physiognomist, reading the face of man, reveals his weaknesses as well as his powers, and by this knowledge is able (with as great certainty as the astronomer) to prognosticate what will be the result of the weaknesses which threaten if not averted by hygienic measures. He is also able to state what will be the future course of conduct, mentally and morally, to a certain large extent, for a square-built man will, in the main, act from conscientious motives, and exhibit scientific or mechanical powers; a friendly man will always have friends, on the principles that "like attracts like" and that "we receive that which we give." Here, again, prevision (foreseeing) provides against suffering and assists man in shaping his pathway through life. This same application of the previsional character of every science may be extended indefinitely, and is applied constantly in mechanism particularly (for this is based upon mathematical laws), as well as to all trades and professions, the followers of which may make the application unconsciously, yet it is nevertheless present and potent.

The elementary principles of form, weight, motion, and number, as in mechanical movements, are all embodied in the human organism, and are outwardly exhibited by mechanism, artistic and scientific works. Man is but a part of "one stupendous whole," as we shall have every reason to believe as we progress in the study of scientific physiognomy. The great French philosopher, Comte, recognized the intimate relation between universal existence and mathematical law, and he expresses his sense of it thus. He observes:—

> It is necessary for physiologists to have geometrical and mechanical knowledge to understand the structure and the play of the complex apparatus of the living, and especially of the animal, organism. The laws of equilibrium and motion are, as we saw when treating of them, absolutely universal in their action, depending wholly on the energy and not at all on the nature of the forces considered, and the only difficulty is in their numerical application in cases of complexity. Thus, discarding all idea of a numerical application in biology, we perceive that the general theorems of statics and dynamics must be steadily verified, in the mechanism of living bodies, on the rational study of which they cast an indispensable light. The highest orders of animals act in repose and motion like any other mechanical apparatus of similar complexity, with the one difference, of the mover, which has no power to alter the laws of motion and equilibrium. The participation of rational mechanics in positive biology is thus evident. Mechanics cannot dispense with geometry, and, besides, we see how anatomical and physiological speculations involve considerations of form and position. *

America has given to the world a philosopher who has perhaps grasped a profounder idea of the unity of law than any philosopher of ancient or modern times, and from his work I have received much instruction, as well as the verification of my theories upon the "Basic Principles of Form." Mr. Stephen Pearl Andrews, in his "Basic Outlines of Universology," formulates a universal basis for everything in existence, and this basis is Number. It is a daring, comprehensive, and masterly undertaking, and its laws can be applied to all other theories, facts, systems, and objects in the universe if they present truthful aspects. I had made all the discoveries pertaining to the law of form as applied to scientific physiognomy before I read Mr. Andrews' work, and I was both delighted and sustained by the support which his larger conceptions and generalizations afforded me. In my own department of research I am constantly surprised and gratified at the breadth of his philosophy and the manifold applications of its logic which I am enabled to make. Just here a temptation arises to give the reader some extended quotations from his work, trusting that as they progress in physiognomy, more particularly as they advance in the practical division, they will see more and more the use and beauty of his discoveries, which both indorse and assist in explaining my own theories on the symbolism and signification of form generally.

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* Comte's Positive Philosophy, pp. 325, 326.

I am here undertaking perhaps a most difficult task, that is, to give the reader a tolerably clear idea of what Mr. Andrews deems the absolute basis of all thought and all things. The more I study the subject, the more difficult becomes the undertaking; but, as it corroborates my own theories, and more particularly that of the geometric outlay of the face, as shown in Fig. 1, and as his basis corresponds to and confirms my own ideas of the ruling principles of Nature in chemistry, architecture, and mathematics, and also that these three are a unity, or, in other words, are resolvable into number primarily, I shall attempt in as brief a manner as possible to make it clear to my readers, for in order to comprehend the "grand man" we must have some knowledge of basic or universal principles. No intelligent person should be satisfied with less. And now let us proceed to investigate why and how "Number is the proper index to the whole volume of Being, the inventory and label of the contents of the universe."*

I shall now give the statement of Mr. Andrews in regard to the scope of his discoveries, and shall then proceed to show the correspondencies existing between his discoveries and my own. I hold this to be the mutual corroboration of the truth of both his and my own observations and deductions, *for all sciences, if based upon natural law, will coincide and mutually expound and verify each other.* Mr. Andrews has made a very free use of capitals, and I have retained his style of printing as nearly as possible. This, together with the coinage of some new verbal forms, shows the marked individuality and strongly assertive selfhood of the man. The same attributes and tendency to originate a new vocabulary are observed in all original minds; besides, the demands of a newly discovered science or principle require new forms of style and expression.

Scientific laws and observations that harmonize are a part of eternal truth, hence incontrovertible and immortal, for "a law once demonstrated is good for all time." The definition given by Mr. Andrews of the science which he has formulated is stated thus. He observes:—

> Universology is therefore based on finding in the determinate particular (any one thing, however minute) a General Law, or, more properly speaking, a Group of Universal Laws, as a new basis of Generalization distinct from and traversing the law or laws of Being gathered from observation; all generalization (Universal) as distinguished from observational generalization (namely, the collection of numerous facts and the deductions made therefrom). This is analytical generalization (Universal) as distinguished from observational generalization (always partial or fragmentary, or, at all events, less than Universal). It is the Interior and Vital Law of All Organization,

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* Basic Outlines of Universology, S. P. Andrews, p. 191.

> and hence of the Constitution of Being itself (transcendental), as distinguished from the external and dead law. It is a new or a newly discovered Scientific Entity, a New Element in Science, revolutionary, exactifying, inaugurative of New Careers, and Scientifically Supreme. *

This new element which Mr. Andrews proposes to introduce is Number, the same by which Plato, Pythagoras, and other eminent Greek philosophers sought to pierce the veil of the infinite and open up to the world the secrets of creation. Many modern philosophers have sought from this basis to deduce a law of universal application. Comte, in his "Philosophie Positive," has come perhaps the nearest to it of the moderns up to the time of the appearance of "Universology." In his system he endeavors to make mathematics the basis of all things, yet Mr. Andrews goes farther, both in simplicity and complexity, and founds upon very simple numbers the whole scheme of being, viz., the dominance of the law which he terms "the spirit of the numbers 1, 2, and 3." The arithmetical reader will immediately recognize the fact that these are basic numbers, from the combinations of which all other numerical powers proceed. He says:—

> Comte has furnished the rational basis for the first of these beliefs, viz., that the fundamental principles of *all* science are to be sought in the mathematics by establishing the fact that the mathematics are the basis or *fundamentum* of the pyramid of the sciences, in virtue of their greater simplicity and generality,—properties which constitute the elementary character of this as of other elementary domains. He failed, however, to draw from the demonstration the consequence which I am here deducing from it, namely, that it is in this elementary domain of science that the first principles of all science must be sought. †

I shall now proceed to show Mr. Andrews' ideas of the supremacy of the first of these three units, and thence how they come to stand as representatives of the science of morphology or form; how, in fact, they create the sphere and cube, which he terms the "morphic measurers" of the universe, and which I find, when applied to the forms of man, to be the measurers and revelators of his character. On page 102 he remarks that "the number two (2) is the virtual basis of the whole of mathematics; more properly speaking, it is not a sum. Two (2), the first sum, is the simplest form of division; its included units being divided even before it is a sum, and division by thought lines or real lines is the *Essence of Form*."‡ Of the dominance of simple numbers in all domains of thought and substance, he remarks:—

> If mere number is the simplest, most general, and hence the most elementary of the Domain of Thought and Being, we have next to inquire what is most simple, most general, and most elementary within this whole

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* *Ibid.*, p. 590.

† *Ibid.*, pp. 137, 138.

‡ *Ibid.*, page 102.

Domain of Being. Here the numbers (1), two (2), three (3) answer to our call, and appear as the first heads or principles *prima capita* of the whole positive numerical Domain. It is here that the Child begins to acquire Science in the pure and exact meaning of the term, and it is with these numbers or with the recognition of the Spirit or Meaning of these Numbers, enlarged into the Universal Principles of Being, that the Thinking World will pass from its infancy—the stage of mere observation and vague speculation—to an exact comprehension of the Universe. *

The First law of Universal Being, in the natural order of precedence, has relation to the number one (1), and may be regarded as the spirit of one, whence it is denominated Unism, from the Latin *unus*, one. It ramifies or permeates all thought, all existence, and all movement, and is *one* of the *two* organizing forces, or factors, or principles of all things in the Universe of Matter and Mind. The second law of Universal Being, in the natural order, has a similar relation to the number (2), and may be regarded as the spirit of two, whence it is denominated Duism, from the Latin *duo*, two. It likewise ramifies or permeates constitutively all thought, all existence, and all movement, and is the remaining one of two antagonistic but co-operative organizing forces, or factors, or principles of all things in the Universe of Matter and Mind. The third law of Universal Being has relation to the number three (3), and may be regarded as the spirit of three, whence it is denominated Treism or Trinism, from the Latin *tres*, three.

From these three laws or principles the whole Universe is wrought out by their successive repetitions in new forms of manifestation in infinite variety, but in serial order and traceable regularity of structure from the lowest to the highest domain, from the basis of the scientific pyramid in the Abstract Mathematics up to its culminating point in Theology, or the science of God.

In quoting so copiously from universological laws as I shall, I leave out, as far as possible, all that pertains to the transcendental, the abstract, and abstruse, and come as quickly as possible to the *practical* applications of number to form, and as an application of the evolution of form from number I quote the following, which is simply and concisely stated. Mr. Andrews says:—

Posit through the imagination two points anywhere in space, and let these two points represent two units. Conceive of them as the sum called two, that is to say, collectively, or as co-existing at the same time in the mind; and this conjoining of the two individual or separate units into a collective twoness is necessarily effected by drawing a line of abstract thought as a *trait d'union* or connection between them. This line so improvised and interposed by the operation of the mind itself is then *Limit*, and as such it is the governing element of Form. Form is thus generated from Number.†

The preceding shows how the mind first by abstract reflection and imagination creates Form mentally. We can illustrate the process practically by placing two articles of any sort whatsoever in space, as, for example, two pencils, and we create a third object, viz., the form resulting from the space inclosed between the pencils; that is the most simple form that can be shaped.

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* Basic Outlines of Universology, pp. 139, 140, *et seq.*

† *Ibid.*, p. 356.

> Number is, then, the simplest or most elementary and primitive kind or variety of Limitation. The mathematical unit representing the Individual Thing is in turn represented Geometrically by the mere point, and Number is an aggregation of Geometrical Points. This is lower down in the Elementismus of Limitation than the line which pertains to figure or Form, and hence to Geometry, above the domain of mere Arithmetic. It is here, therefore, in Number and in the First Elements of Number that the definite limitations of Being must first be considered. *

Mr. Andrews includes a system of comprehensive analogies, by which Form is made to echo to or repeat Number, and this idea of echo or analogy is carried through everything in Nature, as well as into every human scheme, plan, government, system, and all modes of conduct whatsoever. I can only refer in a meagre manner to these manifold subjects, as I need all my space for the consideration of my own particular branch of science. Suffice it to say that all thinking persons can apply his system infinitely and absolutely unlimitedly. To return to the consideration of the analogies of form and number, Mr. Andrews observes:—

> The Morphic Analogies of the 4, the 3, and the 7 are the square, the equilateral triangle, and the House, Edifice, or Temple with its body and its roof. The Compass (dividers) associates with the Circle. This, together with the Square, the Triangle, and the Edifice or Temple, again reminds us of the Symbolism of Masonry, as the Instinctual Stage of the religion of science and of the science of morals.†

The *point* is a very important factor of Form and Being. Aside from its significance as a unit in mathematics and its import as the type of the "least element of roundness" in general morphology, it is the analogue of the nucleus or "starting-point of development" in all organic processes, and it must also type the *centre* of the *mineral crystal*, where the polar forces cross each other in the development of that object. Although here the angle is formed, yet it corresponds to the point. It is the analogue of motion, and hence of development in the egg or vegetable cell, because it is from this central point, as in the germ spot in the animal egg, that the forces of the egg-substance are set in motion which commence the evolution or progressive development of the chick or mammal. It is, therefore, the type-form of Nature dominated by art in its inceptive or embryotic state. Motions are the essential forces of art acting upon substance.

We all know that the ovoid is the primitive type-form of the mineral, vegetable, and animal cell. How, then, do we arrive at the square, cube, and angle in primitive forms? By motion, by segmentation.

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* *Ibid.*, p. 190.

† *Ibid.*, p. 541.

> The yelk or true mass of nutritive matter in the egg begins its course of development by being, as it were, completely cut up, segmentized, or sectionized. Nor is this process of segmentation a merely random cutting up, but an orderly succession of central and equal divisions of the spheroidal yelk into halves, quarters, eighths, etc., thoroughly hemispheroid, quadratoid, cuboid.*

It is in this manner that we obtain the angular and squaring principles of form in living organizations, primarily illustrated to our senses. The law of the square and angle, of the line, the point, and the cube, are all contained in the spherical egg, just as all of the "potencies and possibilities of life" are contained in the human ova or embryo. I think I have now demonstrated the primary origin of the several factors of form; later I shall make the application to matured or developed form, as seen in the various shapes of perfected human beings. I use the term "primary" here in a limited sense. The most elementary principle of form lies back of anything of which the human senses can take cognizance. If we believe these principles to have existed in nebulous matter, we should be obliged to look back of that for the law which is existent in that chaotic state of evolution. It is as inconceivable to our minds as are the laws of squaring to our senses in the egg-substance before the motions of the forces which develop it have shown themselves by segmentation. Let it be understood, then, that the terms primary and primitive are used by me in this secondary sense unless otherwise stated. The segmentizing of the ova into lines or furrows of latitude and longitude shows the influence of the measuring—the geometric or formative power—of the law of number. From this law proceeds exactness, scientific or positive illustration (diagrammatic as in form), and demonstrable as to the number of lines, etc., exact, scientific; the primitive compound of form and number,—primal principles which repeat themselves in the perfected man in every part of his body and mind in infinite number and variety. As before stated, the sphere is capable of bisection into equal halves, and these must cut each other at *right angles*, and here we have the beginning of the orderly, exact, and scientific—the type of truth, accuracy, conscientiousness—of accurate measurement, the prime elements of the cube and square, which last is (as shown by Mr. Andrews) to be the "type or analogue of exactified science." The correspondence of this basic law is wonderfully illustrated in the form of the natural scientist, moralist, and mechanic; all square-built men. I have shown elsewhere that the square-built individual illustrates the scientific aspect of humanity, and exhibits this character by his pursuit of scientific subjects and discoveries of natural laws, as is demonstrated by the body and face of Sir Isaac Newton, whose countenance could easily be made to fit into a rectangular frame, thus showing the uprightness and downrightness, the squareness, and integrity, or *wholeness* of the man, and uprightness and squareness of form gives the shape the best adapted to the comprehension of scientific law as well as to the illustration of conscientious conduct, *for all forms exhibited in the human body disclose their meaning if the true and natural significance of the primal principles of form be applied to them.* George Washington stands as the representative of the law of the rectangle, as applied to human form and conduct; he was over six feet in height, perfectly upright in his bearing, and his general outlines and features were at right angles to each other; hence, his uprightness and obedience to the laws of rectitude and morality was in accord with the law of his form. He was also a surveyor by profession,—a scientific pursuit based on number and form.

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* Basic Outlines of Universology, p. 76.

A spherical or primitive type-form is exemplified in the ovoid shape of the physiognomy of Herbert Spencer, the creator, as it were, of theories which possess a universal application to the beginnings of life, as they are basilar or underlying. This rounding form is observed in the faces, heads, and limbs of all the great creative artists, for the ovoid is the most primitive type-form, and art-forms and nature-forms are nearly identical, while scientific forms, such as the square, angle, and cube, belong to later and more developed shapes, as seen in the mineral crystal after it is cooled. Thus, the ovoid or globose form represents infancy,—creation,—the first beginnings of life; and this form confers ability to represent the same shape in external works, as in art, in gesture, dancing, painting, acting, or singing; for all art is founded on the circle or sections of it, and art-forms and nature-forms more nearly coincide than nature-forms and scientific forms, yet both partake of the nature of each, for, as we have seen, the scientific form has arisen out of the natural or primitive spheroidal shape by motion primarily, and the artist combines all these forms by motions of his hands and eyes.

The making of lines of latitude and longitude upon a globe is an unconscious repetition of the law of development, as exemplified in the segmentation of the ova of the mammal, outworking according to the law of *inherent* geometry, the primal principles of which have come up from the mineral to the vegetable, and from this to the animal; from the animal, vegetable, and mineral to man. The same forces and principles of form which shape the crystal come along up the line of progressive evolution, and find at last their highest manifestation in the shape of the body, the head, and, pre-eminently, in the face of man.

By going back of animal organizations for our demonstrations of the universality of the law of form, we shall find that geometrical and mathematical laws and principles are equally potent and equally well illustrated in all the forms of crystallization of mineral and other substances.

Ice and snow exhibit the most beautiful forms of crystals, and always crystallize according to law in six-pointed rays. Although many hundred diverse forms of these crystals have been observed, this number always rules. In the human kingdom the law of form dominates. and each individual acts according to the law of his form as infallibly as the crystal obeys the inherent laws of its shaping.

I have shown previously that the first or primitive form of the mineral molecule is spherical. I have also evidenced the fact that the primitive cell of vegetable and animal life is spheroidal, globose, or ovoid; as, for example, the germ of all mammals, and the eggs of fowls, reptiles, fishes, insects, etc. I have put in evidence the manner in which the form-principle of the line, angle, square, and cube manifests itself in the germs of organized life. Now it is in order for me to explain how and when the square principle of form makes its appearance in the crystal, and how it becomes the type or symbol of scientific form, as expressed by the square-built man. I am now again coming to deep water, yet not so deep but the eye of man can penetrate below the surface. In the first place, let me state that mineralogy shows that

> The lines of force have a general tendency to arrange themselves at right angles to each other. This is primarily seen in the constructive or polar axes of crystals; the magnetic and electric currents cross each other in the earth and in minerals. The truths of science fully justify the importance attached by the ancients to the ideas of the cross and the correctness of its use as a symbol. A great truth underlies its symbolism; it is the expression of a *universal law* of structure, growth, and action. The polarity of all the great forces is recognized as a truth by the most eminent scientific men. The forces are positive and negative, repulsive and attractive, masculine and feminine.
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> The studies of antiquarians, and the whole history of phallic worship, prove that the cross was anciently used to symbolize the organs of reproduction, the generative forces in creation and in man. At first, it was a symbol of the masculine forces only, but afterward it was used to represent those of both sexes.
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> The ancients looked upon these forces with profound wonder and respect. Here was the greatest of all Nature's mysteries. Back of these were the mightiest passions of the human soul. Here was wrapped up the future of the human race, the molding forces of the world of life.*

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* Book of Wisdom, p. 18?, Chicago, 1882.

It is here shown that from the earliest ages the idea of crossing and of generation were instinctive in the human mind, and the cross, a right-angled object, was symbolically used to represent the generative forces of the human family. Certainly the law of crossing, of creating angles by the motions of the chemical contents of the ova (in which sulphur plays an important part), is instrumental in developing the germ, for without the bisection or crossing of the ova no further development could take place. Let it be noted that sulphur wherever found is crystallized, and it is probably present in a state of angularity in the ova of mammals, but of less than microscopic proportions, hence will never be observed by the use of the microscope. The mightiest works of Nature are conducted on so infinitesimal a scale as to elude the senses and instruments of man, yet we know that when a certain form makes its appearance in a perfected or completed object the *basic or ruling principle of that form was present from the beginning.*

In the cooling of the mineral crystal the polarity of action tends to equation, and thus changes the primitive spherical form (which all mineral molecules assume when in a state of fusion or incandescence) to a square or cube, as is observed in alum and rock-salt, or to a right-angled form, as in many minerals. Thus the square and cube become the type-forms of exact science, because the crystallization or *squaring* of the crystal by cooling *perfects* its shape; that is to say, it assumes the form which it always retains, and thus shows the finished or completed stage, which is a state depending upon *exact mathematical law for its completion.* Now, in the transformation of the egg of the frog, or in the development of the human germ or ova, what takes place after the ova has been carried along the Fallopian tube and deposited in the uterus? Why, a formative process analogous to that which changes mineral substances from numerous spheroidal forms to an angled or cubical one. The polarity of the forces involved in development (call them electric, magnetic, or what you will) operate in such a way as to commence a system of *equation* according to geometric law, and this system is expressed by lines crossing each other at right angles, and creating equal areas within given spaces. Now, here we have the same straight-lined, angled, and geometric law of the cube and square many times repeated in the evolution of a germ-form as low down as that of the toad or frog (and this process is known to be repeated in the germs of all mammals). This, then, is the law of form-development; first, the ovoid or sphere; later, the angle, square, and cube. The perfected crystal and the germ or ova in taking on its completed form presents lines, angles, and plain cubes, and these are typical of exactitude, measurement, geometric law, and are the analogues of the equator and lines of latitude and longitude which man uses to illustrate equal areas of equal distances upon the globe; an unconscious outworking of the law of geometric form which dominates not only his own germ-form, but also that of the form of the perfected human being, as observed in the ovoid or rounded form of the artist, and the square or rectangular form of the man of science.

The bony framework of man is composed mainly of mineral matters,—lime, etc,—and it is these mineral substances which give solidity, integrity, and angular form to his outline. The more bone the man possesses the more integrity, morality, and capacity for the comprehension of mechanical laws will he exhibit. Again, bone is formed of innumerable crystals of angular shape. In confirmation of this idea, Mr. Andrews remarks thus:—

> The whole bony fabric not only of man but of every animal, as well as the muscles and nerves and the organs and systems, is laid out in accordance with a primitive typical plan, derived from the typical sectionizing of the Globe Figure, and then from a similar sectionizing of the cube. The whole carpentry of every organized body is thus devised or self-arranged, as we choose to regard it, in orderly obedience to these simplest and most primitive divisions of form. Whether it is urged, therefore, as the true theory of this subject, that they are derived from the operations of Reason in the Mind of a Conscious Creator, or that Reason itself is a mere Echo in the Mind of Man from the Inherent Necessity and Universality of these primitive Congruities of Form, it is for the purely Scientific result wholly indifferent. The two theories are brought into a complete reconciliation upon the scientific arena, from the fact that under the operation of either theory the phenomenal result is the same. *

The four points of the compass are also illustrations of the angle and cube.

Besides the spherical and square forms in the human being, and in all Nature there is found an infinite number of diverse forms composed of a blending of the square and sphere; each expresses by its dominance which type of character prevails. If the form is more round than square, the artistic, the emotional, and imaginative type is exhibited. If the square form is slightly in the ascendancy, the mechanical, exact, scientific and moral type is illustrated, and so of all the manifold varieties of form produced by the varying quantities of each chemical and numerical principle within the human organism.

In the segmentation or right-angled furrowing of the ovum in its development from a globose unit to an angled, progressive condition, we find all the basic principles of form which are afterward

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* Basic Outlines of Universology, p. 609.

repeated in incalculable diversity in every part of man, both internally and externally, in his thoughts as well as in his own shape; afterward the thoughts are represented in his motions and in his life-work and pursuits. A round man will think round thoughts; if mental, he will be metaphysical,—a creator of ideas and theories. If less mental, and more muscular than mental, he will pursue some form of art. He may be a singer, and singing is founded on the curve; the voice impinging upon the atmosphere sets it in vibration, and these vibrations are curvilinear. The organs of speech and hearing are also circular or curved, or are flexible, and thus capable of receiving and emitting sounds. He may as an athlete repeat his rounded form in his motions and attitudes; if an actor, his speech and gestures will repeat the forms of his head, body, and limbs, by describing the circle or sections of it, as in the curvilinear motions of his gestures and poses, as well as in the wavy motions produced in the atmosphere by his voice.

In the orderly progress of the evolution of mind and thought, theories and plans naturally precede acts or results; hence, metaphysics—logic, the discussion, investigation, and elaboration of laws and principles—precede their practical application. Metaphysics in all ages have preceded the discovery and application of scientific laws. The form must first be in the thought before it can outwork in acts or objects, and in this observation we can make another practical application of the basic laws of form, for we find that the forms of all the eminent metaphysicians of ancient and modern times are rounded, their faces inclined to the ovoid or pyriform shape, and their heads globose. Now comes the application: The ovoid form represents creation, infancy, the first beginnings of life, and the works of the great creative philosophers and artists *originate* in the domain of the ovoid or spherical,—the primitive form; for all art is based upon the circle, or sections of it, as in painting, speaking, gesturing, posing, dancing, and athletics, all included by me under the general term, Art. In the evolution of the mind of the world, art and metaphysics preceded the discovery of science, which in our age is tending to the illustration of exact scientific and demonstrable law through the practical application of those external and immutable laws which lie at the foundation of universal existence, and which find their highest expression in man, and are indexed more particularly and unmistakably upon his physiognomy.

In the history of the evolution of the Greek mind we find that the metaphysics or first principles of thought in regard to the laws of being and existence were investigated and carried to great perfection. We also find that the science of number, of geometry, was also one of the dominating pursuits. The result naturally of these two studies showed itself in architecture and art, the branch of art dependent directly upon weight and measurement, viz., sculpture. These two forms of art reached their acme in Greece, and culminated in the works of Agesander, Ageladas, Phidias, Polycletus, Agasias, and Praxitiles.

Now, the science of number is naturally related to logic or reason. This evolves metaphysical discussion. Number and logic develop not only forms of thought, but, as a natural consequence, produce concrete forms, as exhibited in buildings, works of art, etc. Sculpture is the offspring of number, as in measurement and weight, balance or equilibrium, and is dependent mainly upon the spherical form for its perfection, for the curves of the outlines of all figures are sections of the circle. Architecture, on the other hand, although it proceeds primarily from number, arises from a distinct branch of number from that of art. It proceeds from geometry, and is evolved from or built upon the square, angle, and cubic form,—upon exact scientific measurement,—and is severely simple, accurate, defined, and no less beautiful in its perfected outlines than is the statue with its curving, undulating lines of blended beauty. Compare, for example, the figure of the Apollo Belvedere in the Vatican with the symmetrical and finished rectangular form of the Parthenon at Athens, and we shall find that, although these two types are so entirely distinct, the statue and the building are equally grand, beautiful, and perfect.

The figures and physiognomies of the best types of the ancient Greeks exhibit the dominance of the brain and muscular forms, or of the muscular and brain forms; the former represented in the "roomy arches" of the head of Socrates, the metaphysician, the latter in the more curving, yielding, elastic form of the sculptor. Yet both these "creations" belong to the ovoid class of forms, hence belong to the "infantoid" order of mind. (The term "infantoid" is here used in a relative sense, and regards metaphysics as being prior to the discovery of scientific laws or of the positive knowledge of scientific law. The course of mind-development is always in this manner: first, observation; then surmise; then theory; next, discovery, and, finally, demonstration, resulting from the combination.) If we contrast the forms and physiognomies of these men with our more modern scientists we shall have a practical illustration of the harmony existing between the forms, thoughts, and works of the former and the figures, faces, and works of the latter. Compare, for example, the square-boned figure and rectangular face of Professor Tyndall with the rounded head and body of "old Socrates," or the squared face and form of Francis Bacon, Copernicus, and Michael Faraday, eminent scientists, with those of Plato and Herbert Spencer, ovoid-faced men,—grand theorizers. Inventors, as a rule, possess a blending of the square with a rounding form of the forehead, face, and figure. In some the angular appearance predominates, in others the form is slightly more round than square. In either case the inventions made will coincide with the peculiarities of the form. The intricacies and subtleties of the significance of human forms are very profound, and too minute and complex to enter into detail here. These differences in form and variations in character will be elaborated in later pages.

In concluding the history of the evolution of the two most universal type-forms, viz., the sphere and cube, I would state that my theory will prove by the laws of Form what I have enunciated from the very beginning of my system, viz., that the human mind and body are an epitome or index of all the laws and principles which exist in and govern the universe. I have, however, gone farther, and have shown that the human *countenance* is the *index* or verification of all these laws and principles, and have elaborated a system wherein archetypal or normal type-forms can be applied to every distinct feature, line, outline, and most minute portion of the human body, and thus make them yield up the secrets of human conduct, moral, physical, and intellectual, proving that Form is the true "philosopher's stone," at whose bidding Nature's most secret arcana is laid bare to human sight and knowledge.

The basic laws of form, when rigorously applied to all parts of the human body, yield the most striking results in the line of actual and positive knowledge. When we come to consider that these laws are just as rigorous and just as applicable to the beginnings of all life, organic and inorganic, and that they are as self-revealing in the completed mineral, vegetable, and animal as in the perfected man, we learn that there is a universality of law showing everywhere by a universal method of expression. In short, we shall be obliged to concur with Mr. Andrews when he states:—

> Form is the most determinate and exact of all the domains of Being. As Number furnishes the Universal Principles of Things and their Technical Namings, so Form furnishes their Precise and Diagrammatic Illustration. *

The law of the angle, the square, and the cube (and these include the perpendicular and horizontal), as exemplified by the highest and most perfected of human forms, is shown to be the law of *completion*, as well as the form which in man is capable of the greatest moral force, scientific judgment, and comprehension of mechanical laws, which last are the universal principles upon which all nature is founded and operated. Those whom I have selected to represent these laws are Martin Luther, who, by his cubosity, squareness, and integrity was able to successfully defy the whole ecclesiastical world in the cause of right, was a moral giant; but the one in whose form is embodied the very highest degree of scientific principles is Sir Isaac Newton, and the one in whose structure may be seen the square, upright, and downright form of the most exact of the mechanical forms, viz., the straight line, the angle, the cross, and square, is Thomas Jefferson. These are all typical men. Their characters, life-work, and results were in accord with their forms,—moral, straight, square, and in harmony with the mechanical laws of the universe.

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* Basic Outlines of Universology, p. 614.

Mr. Andrews' recognition of the meaning of these several laws of form is stated thus. He observes:—

> Next above the straightened point is the straight line. The Straight Line is the Type of Laws in Science, as derived from the Primordial Principles represented by these minims of Straight Form, as the Heads or Beginnings of Laws. The Square is representative of Exactified Speculations and Explanations under the guidance of known laws, or, in other words, of Pure Abstract Scientific Theories, not as yet confirmed by the induction or accumulation of corresponding facts.
>
> The Cube is the Type Symbol or Representative of Science, or a Science as a Completed Structure as to its main outline. It is, then, the body of a Temple or Edifice having in it by Subdivision various apartments or rooms.
>
> The Cube is, then, in all ways the Grand, Elaborate, Scientific Emblem, while it is also the Grand Type of Structure or Architectural Plan. Imbuing the Mind with Science or Knowledge is instinctively called Instruction (Latin *in*, in; *struere*, to build), or Building-in. The Cube presents, better than any other figure, the Conjoined Conceptions of Length, Breadth, and Thickness, which are in an important sense the radical conceptions of all Form. . . . . It results from what has been shown that the Cube or Main Elevation of an Edific Fane or Temple is by an obvious echo of Analogy the Standard Emblem or Symbol or Type of the Total Elaborate Construction of Being.*

The careful reader and acute observer in scientific physiognomy will find himself enriched by these extensive extracts from "Universology." Not only so, but he will see how accurately they coincide with my system down to the last detail even. It affords me great satisfaction to find the corroboration of my theories of form so logically indorsed by this great philosopher's ideas as well as by several other eminent men mentioned in this and other chapters. Other principles of form will now come forward for consideration.

Considerable attention has been given in the preceding pages to the investigation only of the *normal* or *regular* factors and laws of form. The thought will present itself to the careful reader, How come those innumerable perversions of character which are observed in the feeble-minded, idiotic, insane, eccentric, and congenital criminal? To which class of form do their peculiar shapes belong, and what law of form shall we apply to their singularly malformed features, organs, limbs, and bodies? This question is pertinent, for regular, natural law does not apply to them, nor would its application produce an intelligible and satisfactory answer. In order that there should be room for evolution, for progress, the creative power, or Nature, has set in motion primarily the law of the sphere. This form is the only one which could produce regular rotatory motions in every direction; hence, it is the form of flexibility, and when we have an instrument which is capable of curved motions, we then have an instrument which can by interference be arrested in its perfect curvation, and by its very flexibility be perverted or changed in its original design from its natural course; hence, its movements can, if interfered with, originate discordant and abnormal manifestations of form, sound, and motion. The muscular apparatus is the principal motive apparatus of the body, and is built upon the plan of *perfect curvation*, and in its normal state will produce perfect curves in every outline, motion, and movement of the body, hands, and vocal organs. Now, when human ignorance, or ignorant and already vitiated human parents or ancestors have brought forth perverted offspring—an idiot, a congenital criminal, or defective child, for example—we observe some one or more of the following phenomena, viz., obliquity of the vision (as in crossed eyes), angularity of the head, which should be rounding; or, in others, the slanting of one foot, and skew of the eye (cat-like), the extreme slope of the shoulders, the crooking of the mouth (the normal type of which is the straight line); crooking of the lower joint of the leg, the normal form of the bone being also straight; a devious, winding, serpentine gait, or else a purposeless, unintelligent shuffle from side to side; angular gestures, or awkward, half-curving ones; crooked features of the face; much too flexible fingers, hands, and limbs, and voices either extremely harsh, discordant, and bass, or else extremely soft, silly sweet, and insincere, lacking in volume and reality, or lisping. We know, when we observe all these, that there has been an infraction of the laws of normal form, and that (ignorantly, of course) parents or ancestors have united who were unfit and wholly inadapted to perpetuate *normal types*, as is often observed in the union of two consumptives, or those with a tendency to insanity, epilepsy, or possessed of a torpid liver, and other defects of form and organization.

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* Basic Outlines of Universology, p. 591 *et seq.*

These are some of the signs and forms of perverted or defective beings, who are neither natural, artistic, nor scientific. They are the products of *violations* of the laws of Nature, Art, and Science—true illegitimates, having upon their escutcheon, the face, the bar sinister. These signs and forms have been observed in association and singly in congenital criminals, such as liars, sneak-thieves, confidence-operators, and in the several grades of defective mentality, weak morality, or idiocy, and in the several stages of eccentricity tending sometimes to madness, and sometimes to the border-land of genius. Observe these peculiarities of form, sound, and motion where we may, they indicate that a separate and distinct principle of form must be applied to them in order to unravel the hidden depths of their characters and to seek the mainspring of their motives.

THE LAW OF SCALENISM, OR PERVERSION.

This is the law which will apply to such defective beings, and is the only one which will interpret their true character. The law and form of the *skew* is their normal type, and in order to improve or alter their natures for the better the most enlightened scientific treatment is demanded. For the credit of humanity I will say that idiocy, feeble-mindedness, and dipsomania are regarded as diseases and defects and are treated as such. In former ages they were regarded as possessions by demons.

Very little justice is accorded the congenital criminal who daily violates some of the ten commandments. He is regarded as being a willful violator of these moral laws, and is not understood to be acting under an irresistible and, to *him*, a natural impulse. The law of his being is oblique, askew, and slanting; not straight, square, upright, and downright. His form or features are also of similar shape. If he have no rich or influential friends to shield and pay for his delinquencies, he is thrust into prison, where he meets hundreds even more defective than himself, and here, instead of being purified and elevated, raised above his former self by being *straightened* and *squared* by intelligent scientific treatment, he graduates in crime, and is able upon making his exit to outdo all his former criminal exploits, and add his quota to the criminal element of the country by propagating a brood of his own sort, and so perpetuate skewism, or the law of the abnormal.

In geometry a scalene is a triangle, having its sides and angles uneven; in fact, it is all awry and askew, a ludicrous burlesque upon a true triangle, and looks like a good triangle on a "spree." Just so do the poor victims to man's ignorant building look when contrasted with the best forms; they are awry, out of joint, not in harmony with the persons and conditions about them. They demand our largest philosophy, justice, and love, and, like the Arabian philosopher, we should pray: "Oh God, be good to the wicked (defective), for Thou hast been sufficiently kind to the good in making them such."

It is this abnormal principle of the skew which we have now under consideration, and which produces the various and innumerable malformations which are the result of the ignorant human builders or defective parents, who unite in producing such wretched burlesques upon human nature as are found in every community. The title of this law I have adopted from Mr. Andrews, and will now make its practical application. There is a law operative throughout Nature by which an attempt in prenatal life is made to return to normal types. Were not this the case the world would be now filled with monstrosities instead of the passably regular forms which prevail. Another principle of form and growth is observed in the artistic modifications which occur in the changing of the form of the infant from a globular vegetative shape to the later ovoid, curved, or square form which it assumes in adult life, and which becomes its final or completed shape. The vegetative adult always retains this form, and its accompanying comparative infantile condition of intellect. The same soft, fluidic, fatty form is characteristic of some idiots, feeble-minded persons, and many who are lacking in good, square, moral natures, or strong and sound judgment.

The law of the skew obtains to some extent in the lower orders, among vegetables and animals, as witnessed in the several malformations of form and perversions of character. The latitude allowed to Nature, coupled with ignorant interference, is the cause of these "freaks," as they are termed. In order that progress or evolution should have scope a certain degree of freedom of action is essential; hence, these abnormal phenomena.

Disease is a temporary return to abnormal or perverted types; so true is this, that we find that even the handwriting of those who have had nervous shocks becomes altered and appears irregular, skewed, shaky, or angular,—like the features and limbs of the paralytic. Interference with the normal law of form by the union of inadapted parents or by disease, afterward produces similar results, viz., perversions of function and form. It need not be supposed that all criminals, feeble-minded or insane persons are incarcerated in jails and asylums. Moving about in society are large numbers of the skewed, oblique criminal, eccentric, semi-insane, semi-idiotic, and feeble-minded individuals, but often in such comparatively slight degree or so shielded as to escape these penalties.

Many elegantly-dressed dames have been detected in the act of shoplifting and "kleptomania," as stealing is termed when exhibited by the rich, but is set down to individual "peculiarities" of the subject, and is hushed up by the payment for the articles taken. Congenital liars and the congenitally feeble-minded (in varying degrees) are observed in every circle and sphere of society. It is only when their acts become unendurable that they are restrained (either publicly or privately) of their liberty. One class of detestable criminals, as a rule, are seldom punished, never adequately. I refer to those lecherous fiends who are prowling about in every community seeking to debauch innocence, and who leave death and destruction in their train. These immoral monsters (for they are neither brute nor human) should be deprived of their power to perpetuate such crimes as are often proved upon them; for it is perhaps impossible to teach them better or to make them able to control their morbid sexual impulse in any reasonable manner whatsoever, for this impulse is a primitive one, the next most powerful to hunger; hence, a part of the real being itself.

As before stated, straightness, perpendicularity, and horizontality are inherent properties of bone,—true curving of muscle. If the bone has not sufficient mineral matter in its composition to make it straight and firm the character suffers through a deficiency of integrity. If the muscle is rigid and does not curve properly and easily, then we find the excess either of will or stupidity. If the muscle curves imperfectly, we find awkwardness of movement, gesture, position, and inability to execute mechanical movements with dexterity, precision, and accuracy, as is observed in the feeble-minded and in many professional criminals. When the ravages of paralysis are discernible in the face, at times they assume a skewed or crooked appearance owing to the *perversions of the nervous system.* This is another proof that abnormal action tends to abnormal form and skews the features affected. When the muscles are too soft and flexible and the bones small and soft, abounding in animal matter, the subject is apt to be too flexible, too yielding for morality, and shifts his position and opinion with every wind that blows; hence, suffers through want of firmness, decision, rectitude, or a positive opinion. Many sneak-thieves possess great flexibility and the capacity for turning and shifting; hence has arisen the vague, instinctive idea that a man too supple in his movements is dangerous.

The peculiar lack of grace, beauty, and aptness on the part of professional or congenital criminals has long been the subject of observation on the part of prison surgeons in Europe, where there exists an hereditary class of criminals, born in and bred to crime. All classes of defective beings also exhibit peculiarities of slant, skew, or oblique lines and movements, which are observed in the gait, attitude, position of the body and limbs, the set of the feet, and slant of the shoulders; all these reveal perverseness. In some cases it does not assume criminal or idiotic proportions, but simply tends to awkwardness and willfulness, to cranky or inapt methods of working, walking, etc. This is the method of operation of the principle or spirit of the skew, slant, or oblique line, often observed more particularly in the various features, members, and outlines of the human family. It produces neither a true curve nor a straight line, nor a true angle and square; yet tends or attempts to evolve both. Where the slant predominates it will show in some one or more of the features, limbs, or outlines of the body, or in the walk, the gesture, the voice, and pursuits. In some persons it is indicated by sophistical writings, or in poor attempts at works of art, or in hoarse, discordant, or shrill vocalization, and in various and numerous social and commercial irregularities.

Eccentricity of manner is another manifestation of abnormal development. It sometimes results in insanity as well as talent, as in Dean Swift and Mary Lamb, the gifted writers. In others it is allied to genius, and is sometimes characteristic of criminals.

The law of the slant or skew operates differently from the law of the angle; yet angular people are sometimes judged by the law of the slant. It is true that angular persons are slightly eccentric and peculiar, yet, as a rule, are honorable, sometimes unpleasantly so in their manifestations of the square principle, and show it by projecting their opinions (as well as their elbows) forward at inopportune times. They lack tact, and are disagreeably blunt in their enunciation of unpleasant truths. What this class of persons lack is the rounding, yielding, agreeable curving principle, the angular element being disproportionately great, thus opposed to symmetry of form as well as to symmetry of character, yet harmonizing with the elements and principles of form which are dominant in them.

There is always an attempt on the part of the dominating forces of being to produce harmony, equilibrium, and symmetry in all things. This is Nature's method pre-eminently; it also is the endeavor of Art and is the supreme law of Science. When a failure to produce these ends occurs it results from interference in some way with the laws involved. The monstrosities and abnormal developments observed in the vegetable, animal, and human kingdoms are the result of violated laws, whether we are able to trace them to their origin or not. Giants, dwarfs, hunchbacks, two-headed women and animals, and those with superfluous members, as well as congenital idiots, drunkards, and criminals, are proofs and illustrations of a falling away from righteousness in the past of ourselves or of our ancestors.

"Genius is ofttimes to madness near allied," and the infraction of certain laws by some has produced sometimes very talented persons. This infraction of laws on the part of others has evolved an idiot or criminal. Maudsley tells us "insanity in one generation often induces immorality in the next," and *vice versâ*. When the law of the *slant* is allowed to govern we cannot predict where the warping will end, nor yet what form it will assume and exhibit. Of one thing we may be sure,—that it will produce biased, warped, eccentric, insane, or criminal characters. How essential, then, the constant study of what I have named the "divine sciences," viz., Anatomy, Physiology, Heredity, Hygiene, and Physiognomy! How necessary the application of their laws! For, "beyond the principles of each science there is a philosophy of the sciences. The principles of one science fully comprehended are a key to the interpretation of all sciences. They are the same footsteps of Nature treading upon several subjects."*

This philosophy or universal law is illustrated at its completion by forms which possess the normal principles of form. The highest expression of divine architectural skill is in the human body and face. To comprehend the basic laws which produce the most perfection in this direction should be our aim, and the three domains of Nature, Art, and Science are the fields wherein the human being may co-operate with the Creator in improving by design, through law, the human family. Nature, Art, and Science are the true factors of Being which are found in varying degrees of power in all natural objects. The plant, cultivated up to a high state of perfection (as most of our garden vegetables have been from wild stock, wholly uneatable), is a product of Nature, Art, and Science combined, the scientific factor here dominating because the perfection has arisen through the application of scientific laws in regard to the best soil, location, treatment, etc. Here Nature and Art are subdominant, and the triumphs of science in vegetable products are every day witnessed upon our tables. Let any one follow the course of the development of the potato, the cucumber, the radish, the beet, the tomato, the celery, or other vegetable, and he will receive a most instructive lesson in the scientific culture of natural products which will be quite astonishing. In some instances the cultivation seems to have left but a mere suggestion of shape and flavor of the original wild edible. Just so it would be with the human race if scientific law were allowed scope in the matter of reproduction, instead of childish instinct, blind passion, or selfish indulgence. These are not the forces we put into horticulture or horse-breeding, for here *they would not pay*.

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* Body and Mind, Henry Maudsley, M.D., p. 185.

The blending or co-operation of Nature, Art, and Science in the evolution of the human race is shown in many ways. To those accustomed to take the very limited view of Art, that it consists merely in painting pictures, singing, acting, etc., the idea of man being in part an art-product, will appear strange, but this will seem plainer when it is stated that those born in barbarism are more nearly *children of Nature;* those born in civilization are more nearly children of Art, *i.e.*, born under the influences of education and refinement, and are hence *cultivated* products by preponderance. Children whose parents have intermarried according to the laws of fitness and adaptation, with the intention of becoming the progenitors of superior offspring, are more particularly the product of Science, with a subdominance of Nature and Art intermingled in their make-up. Such children may not necessarily be superior to all other children, but are undoubtedly superior to what either of those parents would have perpetuated had they intermarried with more unsuitable mates.

The law of "natural selection," so happily elaborated by Mr. Darwin, is the method which Nature pursues to improve the human race and all races, in accordance with a law of progressive development, which, it appears, is one of the most important factors in carrying forward the evolution of the race toward a higher grade of development. Those born under the spontaneous operation of this law are almost purely natural products.

In civilization, the choice of the woman by the man, on the ground of some real or fancied excellence, is an aid—a slight one—to the former slow method of improvement. This is the triumph of Art over Nature. The third method, that which is pursued by a very limited number of persons, indeed, in civilized life,—the plan of intermarrying because of mutual adaptation and fitness,—produces a scientific result in offspring, born according to law, bred with the design of improving the race by scientific culture. This method, if universally practiced, would carry forward the evolution of the race with great rapidity, and if the higher, scientific plan of reproduction were followed instead of the instinctive or animal-like method (which is the lowest form of reproduction, and the one commonly pursued in civilization as well as in barbarism, in obedience to a blind, sexual impulse or selfish gratification), there would be evolved a race of wonderful beings far transcending any which have ever appeared on earth.

The principal and most important use of the knowledge of the Basic Principles of Form is found in its application to scientific physiognomy, and the most important use of this science is toward the scientific culture of the human race. To study the science for the simple desire of knowing what certain faces and forms reveal is mere childish curiosity. The *application* of its principles is its *highest* use. My motive in elaborating this system proceeds primarily from a desire to improve the race by practical methods, to bring it up to a higher grade of moral, physical, and intellectual excellence, instead of relying upon the slow and uncertain natural way advised by theologists, which is the merely sentimental phase of improvement, slow and uncertain, not radical and certain. I do not wish to underrate theology or any other system of ethics which promotes in any degree, however slight, the morality and integrity of humanity; but what I urge is that *fundamental* principles of life are *now*, at this *particular stage* of the world's development, greatly needed, and I add this, my contribution, in a true missionary spirit, as being the attitude of benevolence I hold and have ever held toward my fellow-beings. The form of its expression has, however, changed with advancing years; for, whereas in my youth I thought it my duty to proceed to Africa and Christianize the barbarous races, I now believe it my duty to remain at home and appeal to the most enlightened and refined of the Christian races, and to instruct them in divinely constituted scientific law instead of teaching inspirational, intuitive beliefs to the heathen. The latter belongs to the infantile stage of man and the race and the former to the adult stage of mind.

In the preceding pages each primal principle of form has been considered. There now remains only the duty of giving a tabulated summation of the several discriminations of form, together with their related symbols or significations. The six simple mechanical powers involved in Nature, or the working forces which operate the world and man's organism alike,—viz., the lever, the wheel, the axle, the pulley, the inclined plane, the wedge and screw,—will be treated of when we arrive at the discussion of the moving forces or dynamics of the human mind and body. This chapter is devoted more particularly to the application of the factors of Form to the human organism, regardless of the operation and effects of the mechanical forces and visceral organs which produce them, except in the most primitive and elementary sense, as connected with primitive geometry or the form and motions of the planets. Let it be understood in the following summary that the term "artistic" is used in its most comprehensive sense, including not only the art-side of Nature, but also all of the arts of man, such as sculpture, painting, acting, singing, musical instrumentation, athletics of all sorts, and the semi-artistic professions, such as photography, phonography, telegraphy, and all other arts which are a combination of art and science, with the art principles dominant, and a subdominance of the scientific laws.

The term "scientific" is also used comprehensively, and includes mechanism, invention, and all scientific pursuits in which mechanical or scientific principles dominate the artistic.

The Normal Factors of Form and Being in Nature, Art, and Science.

The Sphere, the Curve, the Square.

The Point,	Motion, Germination, Progress.	Beauty.
The Sphere,	Nature, Art, Infantile Stage.	
Product,	The curvilinear or artistic man (normal type.)	

The Line,	Science, Determinate form.	Perfection.
The Angle,	Regularity, Precise "Diagrammatic Illustration."	
The Square,	Stability, Rectitude, Morality, "The Measure of a Man."	
The Cube,	Integrity, Wholeness, Completion, Adult Stage.	

Natural, Artistic, Scientific.

Product, . . The square or scientific man (normal type).

The Law of Imperfect Curvation, Illustrated by the Abnormal Factors of Form and Being, Skewism or Scalenism.

Obliquity,	One-sidedness, Immorality.	Imperfection.
Eccentricity,	Non-stability, Genius, Ugliness, or Madness, Contrariness of Thought and Action.	
Imperfect Curvation,	Sophistry, Knavery, Defective Functions.	
Perversion of Form and Motion, as in—		
Sinistrality or Left-handedness,	Awkward and Inapt Movements.	

Imperfect curvation, or crookedness of the features, the head, the limbs, the organs, and body, producing malformation of the organs of speech, hearing, and sight.

Unnatural, Inartistic, Unscientific.

Product, . . The crooked or perverted man (abnormal type).

CHAPTER III.

THE FIVE ORGAN SYSTEMS WHICH CREATE FORM AND CHARACTER.

"The history of the evolution of form, which primarily occupies us, is at the same time the history of the evolution of functions, and this is equally true of the human and all other organisms." *

"Habits and the use and disuse of organs are certainly of the greatest importance as efficient causes of organic form."†

VICTOR COUSIN, in his admirable essay on the beautiful, remarks: "All is symbolic in Nature. Form is not form only; it unfolds something inward."‡ This philosophy is scientifically correct, for it is a law of Nature that *form* indicates character; if this be so, then the form or shape of the individual must bear a strong relation to his actions. Not only is this true, but it is also true that if in attending to the detail of a man's physiognomy we observe with the eye of science, we shall be able to discern not alone his mental powers and his moral proclivities, but likewise his physical qualities and predispositions to health and disease.

The natural shape, or the one with which one is born, can be modified, it is true, by attention to diet, rest, exercise, mental occupation, etc., but, as little attention is paid to modifying inherited forms, we can safely say that the majority of men attain manhood with the *form* which was *inherited*, unless disease, diet, or unavoidable circumstances have modified the inherited form. In investigating the laws and forms of organic life and their meanings, we must be governed by the methods of reasoning that are observed in all other departments of scientific research. We must first collect the facts as to forms and their related characters, then we must pursue a course of generalizing, as it is termed. This consists in collecting a certain number of facts relating to forms, together with the characteristics which accompany such forms, and then compare facts and forms, and if in the *majority of instances* the facts and forms agree we have sufficient evidence upon which to found a law. This is the method pursued by all scientists.

The safest and surest way of discovering the laws and truths of Nature is to follow her indications, to use one's sense of observation and comparison, and to interpret Form according to its indications, assisted by the "basic laws of form."

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* Haeckel's Evolution of Man, vol. i, p. 86.
† *Ibid.*, p. 19.
‡ Philosophy of the Beautiful, Victor Cousin, p. 129.

That all form indicates character is a principle so well established throughout Nature as to need little testimony from me. In the study of the science before us, it is absolutely essential that this principle should be thoroughly comprehended, and the character of its various phases understood at first sight, in order to render the interpretation of character certain and beyond all doubt,—for upon the conformation of the physiognomy (and here I mean the entire body) are we mainly dependent for knowledge of the character of the entire man. It is true that size, color, texture of the skin and hair, health, etc., play their part in determining characteristics; still, Form is primarily the grand determining, dominating principle underlying all others. Its meanings should be completely mastered before proceeding to the consideration of other branches of our subject.

The more advanced phrenologists, who commenced the investigations of phrenology on the basis of classification by *color* of the complexion, hair, and eyes, have gradually arrived at the conclusion that *form* is the most decisive factor in the interpretation of character. O. S. Fowler declares, in his work on "Human Science," that the correct way is to classify character by the *forms* of the body, and that these forms are produced by the predominance of one or the other of the five principal systems of functions included in the human organism. These systems and forms he designates the "Vital, Motive or Mechanical, and Mental Temperaments."

I cannot comprehend how Mr. Fowler can consistently retain the word "Temperament" in his designation of *forms*. Temperament is the word used by Hippocrates to indicate the several colors of the complexion. It has no relation to Form, whatever it may have to color. If we wish to use language at once intelligent and comprehensive, it must be rejected, as well as the method of deciding character by so small a portion of the organism as the skull alone. Why should not the face (where the most active and expressive muscles are located) and the contour of the entire body be taken into account? It is certainly a great deal more difficult to feel the head (which has no active expression, and is not so practicable for every-day and instant observation as the face and the outlines of the body) than it is to scan the face. "A cat may look at a king," and so one may study the features of his fellow-men, without saying "By your leave." This system of physiognomy classifies upon the basis of the *forms* that are derived from the development of the several organ systems which are comprised in the human body. It also shows the influence of color and health, as well as all the other conditions which determine character.

In the human organism there are five different organ systems, which, in their development, produce different configurations of the body and corresponding differences of mental development. These systems are always found in combination, but in different degrees of power in every individual, and to these variations are we indebted for the infinite variety of the human race. These five systems are named the Vegetative, the Thoracic, the Muscular, the Osseous or Bony, and the Brain and Nervous Systems,—the last mentioned forming one system and producing one conformation. Each of these systems evolves and exhibits a different set of physical functions and mental faculties peculiar to itself, but they are so constituted that neither can exist without the action and interaction of a certain proportion of each of the others.

In order to create a normal and healthful condition of the organism, there must always be a due development of *each* of these systems, else incompetency, disease, and early decline will be the result. The system which is the first in the order of development of all organized life, and which is also the underlying or basilar system of man's organism, is the Vegetative, and it has, in common with the various growths of vegetable life, the functions of sustentation, imbibition from the air and water (through the pores, in plants, and the mouth, in man), of reproduction, assimilation, absorption, secretion, excretion, respiration, circulation, and growth; but the Vegetative System gives no power for the expression of the phenomena of either thought or volition. Every plant, tree, vegetable, and shrub has the power of absorbing, excreting, and reproducing, circulating its sap and juices through its cells and tubes (and this by hydrostatic law and the law of gravitation).

All the lower animals have the same powers and functions. Not until other systems of functions are superadded do we discover any capacity for volition or conscious sensation. It is true that the lowest animal organisms, such as the Amœba, give indications of possessing a certain form of sensation, yet these are all in the *vegetative condition.* No *organs* for the expression of sensation, as we find it illustrated in higher animal organisms, have yet been evolved, and until these organs or systems of functions are added,—such, for example, as bones, muscles, and brain,—volition, sensation, and thought, in their most complete sense, are not present. The intelligent reader, who has followed the course of the evolution of man from the lowest organisms, or from the primitive human germ, will have observed the order in which the several systems of functions and their accompanying faculties of mind (as it is called) have evolved or developed. As Nature has indicated this order as her supreme law of progression, I shall endeavor, in the exposition of this system of physiognomy, to follow her methods, believing the laws of Nature to be divine and infallible. These laws, if allowed free scope, and not impeded by the ignorance or wilfulness of man, will always result in harmonious development and equilibrium.

A study of the laws of natural progression shows that all organic life commences with the development of the functions of sustentation, reproduction, secretion, and excretion. Here, then, is the physical basis of organic as well as of mental life.

In the first chapter I took for illustration the first developments of Form and Character as shown in the mineral kingdom. In this, I shall continue the study by taking up, first, the consideration of the form, character, and the earliest appearances of cell-life in the organization of animal tissue or of animal bodies which have, like all vegetables and young animals, no object in life but to grow. It is probable that the first races of men were stomach men merely—that is to say, they lived in the lowest range of functions and faculties, viz., those of sustentation and reproduction, just as do the lowest races at the present time—and that the powers which assist man in his architectural and mathematical efforts were not developed at that stage of evolution to any appreciable extent, but were merely rudimentary.

In elaborating my theory that "mind inheres in the entire organism" I shall quote from an able writer in order to show that all the basic elements and principles of Mind are present in the lowest or earliest forms of cell-organisms. These organic elements are characterized by the same properties that are exhibited by the most developed organisms. These properties are those of nutrition, reproduction, growth, development, and sometimes of motion and irritability, all of which are present in the *Amœba*, the most primitive of animal organisms. The extract hereto appended will explain the manner of development of primitive tissues which contribute to mental as well as to physiological power. It will also exhibit the dominance of the basic principles underlying all matter, viz., those of Chemistry, Architecture, and Mathematics:—

THE STRUCTURE OF ORGANIZED BODIES.

Chemical analysis has shown that all organized bodies are capable of resolution into simple chemical elements which in themselves do not differ from the elements out of which all matter is composed; in other words, that the simple elements of which organized bodies are built up are *universally* distributed throughout Nature, and that no one element is peculiar to organized matter. The characteristic of organized bodies is therefore not to be found in any peculiarity of the *matter* of which they are composed, but in the *manner* in which the atoms composing that matter are grouped. In an inorganic body we are accustomed to attribute its chemical properties to the nature, number, and mode of association of its constituent elements, while its physical properties are attributable to the mode of arrangement of its molecules.

Analysis of organized bodies shows that in them we have certain elements constantly present in certain definite proportions; it is therefore warrantable to assume that the chemical properties of organized bodies are, as in the case of inorganic matter, due to the number, nature, and mode of association of their elements. Further, we find in all organized living bodies a certain identity of physical properties; it is, therefore, warrantable to assume that the physical processes seen in organized bodies are dependent on the mode of arrangement of their constituent molecules. The elements constantly associated in living matter are carbon, nitrogen, oxygen, hydrogen, and sulphur, forming a complex combination, to which the term *protoplasm* has been applied. This matter, protoplasm, whether found in the tissues of the highest animals or plants, or in the lowest, unicellular members of either kingdom, has always the same composition and is always possessed of nearly the same attributes; with the restriction that we have already referred to, as to the difference in functions possessed by animals and plants,—differences which will probably in the future be cleared up, and found not to be in contradiction to the statement that protoplasm is the universal basis of organization.

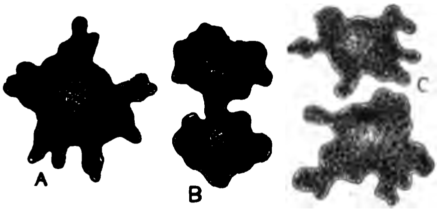

FIG. 3.—A NON-NUCLEATED CELL, THE PROTAMŒBA PRIMITIVA. (AFTER HAECKEL.)

A, original condition; B, commencement of reproduction by fission; C, after complete separation.

All organized bodies are built up of associations of masses of protoplasm, which from their appearance are termed *cells*, or, from the functions which they fulfill, elementary organisms; and as the physical properties of inorganic matter are dependent on the arrangement of their molecules, so the physiological peculiarities of organized bodies are dependent on their cellular structure.

Physiology is, therefore, the study of the properties of cells. Cells possess the properties of Nutrition, Reproduction, Growth, Development, and in many cases their contents are capable of Motion and manifesting Irritability.

Microscopic examination teaches that every living object, from man down to the smallest animalcule invisible to the naked eye, from the largest tree down to the most microscopic plant, is built up on the same general plan. In each the same element of organization is found, and every living form is built up of associations of these microscopic units, each of which, even in the most complex forms of life may be regarded as separate individual organisms. . . . .

The best known of such undifferentiated forms of cell-life is the amœba, one of the simplest examples of an animal organism.

In its lowest form the amœba (*Protamœba primitiva*, Haeckel) consists of a mass of jelly-like, structureless, albuminoid substance (protoplasm), which, so far as its chemical composition and general attributes are concerned, cannot be distinguished from the contents of all active forms of cells. (See Fig. 3.) The amœba is capable of spontaneous motion, both as regards change of external form and of progressing from place to place. Motions may also be evoked by various stimuli; hence free protoplasm, in common with muscular fibre and ciliated organisms, is *contractile.*

The peculiarity of protoplasmic motion as seen in the amœba is that motion does not occur around a fixed point, but rather is a flowing motion, such as might occur in the particles of a fluid. Thus, in an amœba the changes in form and location are effected through the thrusting out of lobe-like prolongations of the periphery (pseudopodia) and their subsequent withdrawal or the flowing into these extensions of the remainder of the body.

Occasionally one or more of these pseudopodia become gradually more and more constricted, until finally a portion becomes entirely separated from the original mass, increases in size, and itself possesses all the properties of the parent stock; hence protoplasm is *reproductive*, and possesses the power of *growth.* Moreover, the movements of an amœba are not necessarily the consequences of external stimuli, but may be self-originating; hence protoplasm is also *automatic.* If watched for some time an amœba will often be seen to take into its interior by flowing around them small vegetable organisms, of which portions are dissolved and converted into the substance of its body, while the undigested remainder is extruded; therefore, protoplasm, even in the absence of all digestive organs, possesses the power of *nutrition.* The amœba requires for its existence an atmosphere of oxygen, which is absorbed, and which it again partly exhales as carbon dioxide. Protoplasm is, therefore, respiratory.*

The above clear and explicit statement of cell-powers shows that the common basis of mind-organization is present in the simplest forms of organized life. In this phase of existence the animal appears to be stomach all over; formless, yet possessing all the possibilities of form; unorganized, yet exhibiting all the attributes of organization, viz., capacity for motion, reproduction, growth, secretion, excretion, respiration, and digestion. In this stage it seems to be a chemical compound, merely; the rudimentary stage of all organic life is mainly chemical, yet possessing as we have seen all the "potencies and possibilities" of architectural and mathematical development. The primitive germ of the human embryon is nothing more at its inception than a minute mass of non-nucleated protoplasm, yet possesses all the properties of mind which in its developed state may exhibit the transcendent genius of an Humboldt or a Newton. It is hence important that we should study the primitive origin of man, in order that we may comprehend the physical basis of his mind. It is to further this purpose that I have introduced the preceding description of the Amœba.†

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* Physiology of the Domestic Animals, Robert Meade Smith, pp. 11-14. Philadelphia: F. A. Davis.

† A study of embryology or of the evolution of man would be most advantageous to the student who desires a thorough knowledge of this most interesting phase of mental development. My limits forbid further elaboration here.—THE AUTHOR.

The lowest animal organisms exist in and upon watery or fluid nutriment; and man in his embryonic state, while he is developing from his protoplasmic condition, as well as for months after his birth, lives upon fluid nutriment.

The native Australian is a fair sample of this stage of evolution. Of course, the germs of *all* the five systems are present in the lowest types of man, but in this stage of development they lack both size and quality, and are not perfected as in perfected races. The other systems of functions, and many faculties now seen in combination with the vegetative, have been very largely perfected since, particularly the brain and nerve system, which is now in a more active state than ever before in the world's history. From being a stomach race we are becoming a brain race. What evolution will do for us in the ages to come it is difficult to predict. The law of pregress is always from the lower to the higher, and surely we can say of human nature that it has need of higher growth or a higher development in *quality*.

FIG. 4.—NATIVE AUSTRALIANS. (AFTER D'URVILLE.)
Showing absence of muscular tissue.

The next class of animals above the Amœba is that of the Infusoria, also of microscopic proportions. Above these we find the Polyp (Fig. 5), a soft, round-bodied animal, that seems to be merely a gelatinous mass, yet with quite a distinct digestive apparatus in the form of a tube. These creatures multiply by what is termed gemmation or budding. They respire through the skin;

they have no blood-vessel system, but are supplied with a nourishing fluid analogous to the blood of higher animals.

From this stage of animal life until we reach Amphibia, a class of animals which are capable of living both in water and on land, we find no true lung or perfected breathing apparatus. To be able to inhale air is the next great step in progressive development of animal powers, and in Amphibia we observe a development of both lung and heart power. The next stage of development is shown by an increase of the muscular system. This increased power is necessitated by a life on land, as the amphibious animals seek their food on land as well as in the water; hence, they require more muscular power to enable them to gain a livelihood in both realms.

A life in the open air under the direct rays of the sun causes the bony structure to become perfected. A life in the water exclusively gives to the bony structure a cartilaginous or soft condition. We find in the human and animal races that those classes that have led an outdoor life for generations, as, for example, farmers, laborers, etc., have the best-developed bony structure. The animals and birds that skulk and come out mainly at night have not so good a bony system as those that live in the open air exposed to the sun. Compare the tiger, the coon, the opossum, the polecat, and skunk, with the sheep, the goat, and dog, the owl with the sparrow-hawk, etc., and we shall have a very good idea of what the sun can do in developing and perfecting a bony structure.

FIG. 5.—A POLYP. (MUCH ENLARGED.)
A simple animal organism.

In the plan of progressive development in the lower animals we find that the order observed is as we have indicated: First, the vegetative functions, or the ability to eat, drink, respire, secrete, reproduce, and grow; the next step is to breathe; the next is the development of the muscular system, then that of the osseous or bony system; later on, as we advance above the fish family, we find a beginning of a true brain system. Not until we arrive at the order Mammalia do we find a perfected brain and nervous system, represented first in the several races of animals, both wild and domestic. This is the order which Nature unfolds, whether we look for it in her manifestations through the long ages of progressive development from the simple Amœba up through fish, reptile, bird, and beast, to man, or whether we trace it through the embryonic life of the human being and find it written on man's face, which is the register, if we read it scientifically, of all these changes and growths. The order above described I shall follow in my exposition of the five systems of functions.

THE VEGETATIVE SYSTEM.

We observe the signs for the action of the vegetative functions in the lower part of the face mainly, the signs for the development of the animal or motive functions and faculties in the middle range, and the highest portion of the physiognomy discloses the intuitional and the reasoning powers. Man's face is truly a microcosm, or miniature world. How wonderful! How beautiful! How divine! It seems to me that religion can go no farther than to know the human face scientifically, and then to use this knowledge for race-improvement by intelligent and scientific methods.

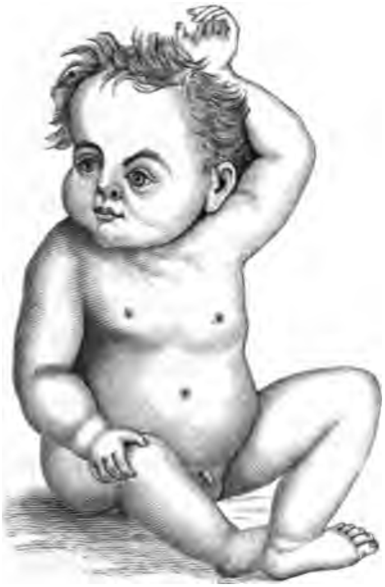

FIG. 6.—VEGETATIVE INFANT.

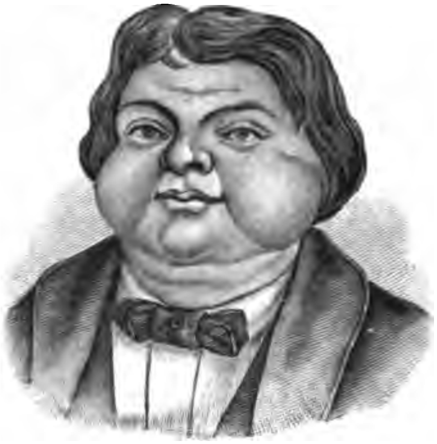

FIG. 7.—VEGETATIVE MAN.

If the theory of the evolution of man had never been promulgated, the human face read scientifically would have necessitated its promulgation, for the face of man proves the order of his development, and the *course of embryonic life* corroborates the methods which have governed the gradual unfolding of all animal organisms, from the lowest to the highest. In the highest animal organization in the world, the first few years of life are passed with apparently no purpose but to assimilate nutriment and grow; these fill out the infant years of the human race. The countenance in infancy is comparatively expressionless, the bony parts of the face and body are cartilaginous and scarcely perceptible owing to the amount of fatty tissue which the constant absorption of liquid food has produced. What will eventually be bone is in an almost gelatinous state; the glands are active and give a large quantity of juices which soften the tissue. The cheeks and chin are round, the nose small and depressed, the mouth large, the cheeks protuberant, the forehead small, narrow, rounding, and bulging at the centre. There is a sleepy look, with little inclination to move. The infant while in this state may be said to be in the vegetative condition, that is to say, it assimilates food, it respires, it secretes, and grows. This is precisely what all vegetable life does, only vegetables never get beyond this stage. They never develop the powers of voluntary will and motion; these require bones and muscles. The entire existence of vegetables is passed in absorbing and growing, and these functions being common alike to plant and animal existence are named vegetative.

If these functions and faculties remain dominant in adult life, then the individual is mainly vegetative, and although in the adult there are bones, muscles, and nerves, and other animal powers, still the individual thus built will be childlike as compared to those who possess more muscle and larger bones with less soft, fatty tissue. The judgment of this class in matters of literature, mathematics, and art will be defective, and the domestic faculties will be found in the ascendant.

The vegetative adult is characterized by large mouth, small, depressed nose, globular cheeks and chin, slow motions, slow pulse, large abdomen, voracious appetite, love of liquid foods, and of sleep and ease, mind free from anxiety or care, and apparent deficiency of capacity for mental effort except in the most limited degree. This class of persons is found generally with the mouth open and the eyes shut, and this is in accord with the principles upon which they are built. The stomach in this sort being more capacious than the intellect, they naturally put themselves in a position to favor their dominant powers. By keeping the eyes closed the individual is able to shut out sights which might cause ideas, and as thought is foreign to his nature and eating the highest enjoyment, he is by this attitude in a condition to favor the peculiarities of his structure.

As it is a law of human nature that we are inclined to use the faculties and functions which are most developed or strongest in us, those with this formation will be inclined to gluttony and to the diseases which an overcharged system engenders. These are shown by dropsical tendencies, rheumatism, scrofula, gout, tumorous growths, fatty degeneration of the heart, liver, and kidneys, apoplexy, inflammations, and fevers. The character is unambitious, indolent, contented, lacking in integrity and enterprise, selfish in its enjoyments, and only willing to give after being fully satisfied itself. Fortunately for the world, there are in it very few of this class of individuals.

We often meet with men of eminent talent who have a large degree of the vegetative system, but who have inherited with it a fine and large brain system and well-developed bones and muscles. Among this class I may mention Hume and Gibbon, the historians; Dumas, the novelist; Samuel Johnson, the philologist; and Arkwright, the eminent inventor. Robert Ingersoll is also a representative of this combination. These men, by reason of their having such a great store of vitality as the vegetative system yields, were enabled to perform immense mental labor. This formation gives the power and warmth necessary to sustain great mental effort by reason of the juices which the glands secrete and absorb from the large quantity of nutriment taken into the stomach. Food of the liquid sort is especially desired by persons with the vegetative system large.

This system and formation can be made a useful and normal one by using hygienic measures: First, by taking less sleep and on a hard bed, then by restraining the appetite in eating, and especially in drinking, by avoiding carbonaceous foods, such as white flour, sugar, eggs, potatoes, butter, milk, beer, and spirits, drinking water only and sparingly. By thus doing in a short time the excess of fat will disappear, the mind will become clearer, the individual will, by reason of the increased activity of the liver and lungs, grow more active, more unselfish and thoughtful of others. Especially should the society of active, bright people be cultivated, as we all are more influenced by association with others than we are aware of or are willing to allow.

The illustrations Figs. 5 and 6 are perfect types of the vegetative class, with but a small development of the bony or muscular systems. The man is a sort of human polyp or human cabbage; yet such persons can, by a persevering application of hygienic laws, develop a fairly useful organization. The infant illustrates the normal condition of the infant, which is the vegetative.

In the lower animal world we find that the upward progress of the organism was caused mainly by the evolution of a *breathing apparatus*. The power to inhale air was a great step forward, and the order of the development of animal organs is precisely the same as that which the human animal observes in his progress to perfected manhood. Ernst Haeckel tells us, in his celebrated work on evolution:—

> Man, in his embryonic life, passes through all the various stages of progress and development which the lower organisms pass through in their evolution from the merely vegetative existence to the highest degree of sensation attained by animal organisms.*

At his birth he possesses all the functions and faculties which characterize all vegetable and animal organisms, with the addition of a higher grade of intellectual apprehension and with more perfected and sensitive members and faculties. These are arranged in the body in the exact order in which they have evolved from the lower organisms—the vegetative functions occupying the lower portion of the trunk, and the brain, the latest organ to become developed, the highest portion of the body. In the human face the signs indicating these several organs and functions with their accompanying faculties will be found to follow precisely the same plan.

A good proportion of the vegetative system is essential to health, and those who are lacking in the right proportion of it suffer from dyspepsia, nervousness, sleeplessness and consumption. What is required to make a well-balanced individual is equilibrium in the several functions, and this law of equilibrium is universal, controlling and regulating all created things. It is the law which keeps the planets in motion, and holds them true to their orbits.

Some of the finest traits are evolved from the vegetative system; the domestic and social here find their origin. If we wish to lead happy, healthy, and moral lives, we must seek to obtain a fair share of this system, and then keep it in repair by applying hygienic law to its conservation; yet an excess must be avoided, unless we wish to sink to the level of a mere vegetable existence.

The vegetative system will always play an important part in the human economy. It is the base of many fine traits of character as well as being the sustaining power of the organism. The absence of a due admixture of this system produces an impoverished body and a mind devoid of many beautiful and useful traits. Friendship, Approbativeness, Parental Love, and Amativeness are directly related to this system and are all sustained by its development and action.

The signs for the following organ systems are within the chemical or vegetative division: The intestines, the kidneys, the glands, and reproductive system. Their action is chemical *mainly* and does not involve the action of the muscles or bones, except as a secondary cause. The faculties derived from the development and functional action of these organs are Conscientiousness, Firmness, Digestion, Bibativeness, Love of Young, Benevolence, Self-esteem, Friendship, Amativeness, Mirthfulness, Approbativeness, Economy, Hospitality, Love of Home and of Country.

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* Evolution of Man, Ernst Haeckel, vol. ii, p. 5

The vegetative system shows all the functions and faculties which are dominant in childhood, and the physiognomies of all children, if they are healthy, exhibit a larger development of these signs than of other divisions where the signs of the Mechanical, Artistic, and Mathematical powers are located.

The three grand natural divisions of the face, *by the very order of their arrangement* and locality, indicate the order of progressive growth and development of the body and mind. First, the vegetative system, which is supreme in childhood; afterward, the mechanical faculties assert their dawning powers just in the ratio that the bones and muscles strengthen; and when children commence to understand the use and management of material substances, they can become expert in light manual labor, both artistic and mechanical. Later in life, the brain becomes more mature and pure abstract reason dominates all the previous developments, and mechanical calculation serves also to assist mental processes.

The faculty of Conscientiousness is located in the chemical or underlying system, proving conclusively that morality commences in the *physical basis*,—just where it should, to be of the greatest value to the organism. If a cultivated and quickened moral sense were brought to bear upon all the faculties and functions of this division of the human organism, many of the sins and evils affecting the human family would be unknown. A judicious mingling of this system with a suitable proportion of the other systems of the organism creates health and happiness; how to accomplish this result will be shown as we proceed to investigate the science of physiognomy. This system constitutes the chemical division of the body and mind; the faculties set in action by its laws are mainly chemical in their operation.

ARCHITECTURAL DIVISION.

THE THORACIC SYSTEM.

The thoracic system is located in the highest portion of the trunk, and contains the organs of respiration and circulation, the heart and lungs, as well as the liver, which is an active agent in purifying the blood that has been created by the assimilation of nutriment in the intestines and glands. The blood is poured into the heart through the thoracic duct; from the heart it is carried to the lungs by the pulmonary artery. This system therefore includes the heart, liver, and lungs, together with the several ducts, veins, arteries, and tubes comprised in its action. These physical functions give rise to the following faculties: Pneumativeness, Hope, Analysis, and Color, and exert an influence upon Human Nature, Imitation, and Sublimity.

The Architectural Division has three subdivisions. One is composed of the heart, liver, and lungs; the second, of the muscles, including the stomach, which is a muscular organ; and the third, the osseous or bony system. Each of these organ systems originate a different class of mental efforts.

The outward facial sign for the lungs is, of course, the nostrils, as it is through these organs that we are enabled to respire. The facial sign for the heart is also the nostrils, as well as bright color of the complexion. The heart and lungs being correlated organs, they mutually condition each other; hence large nostrils are indicative of good heart and lung power. A predominance of the thoracic system is known by large rounding chest, wide nostrils, rather high cheek-bones, full throat, bright eyes, and elastic step, while the abdomen and brain are comparatively small. The greyhound is a fine illustration of this system, also the various deer tribes. This system in its highest manifestation shows that the aëration of the blood is performed on a large scale, inducing buoyancy of spirits, quickness and clearness of apprehension, ambition, hope, and progressive mentality. It causes the individual to be cheerful, happy and pure-minded, owing to the large quantity of oxygen taken into the system and the purifying effect which a large heart, liver, and lungs give to the whole organism.

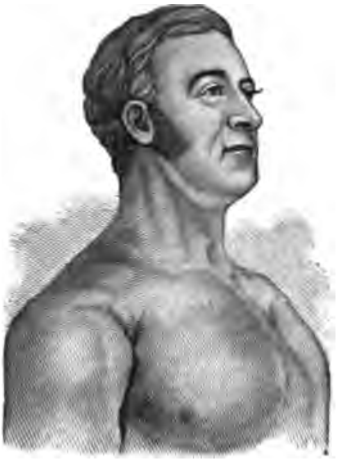

FIG. 8.—THOMAS H. BENTON. (UNITED STATES SENATOR.)

Thoracic System dominant.

History abounds in the record of men with large thoracic development and small brains, who have made of life a brilliant success, but it is almost void of those possessed of small lungs and large brains. Pioneers, discoverers, warriors, orators, and aggressive people in thought and action the world over will be found within this class. Where this system is well marked, the individual will be fond of outdoor sports and pursuits, quick at apprehending everything perceived, and as quick to drop it. This peculiarity causes them to excel in pioneering and geographical discovery, and in all pursuits where great activity and constant motion is required.

Children of this formation of body are restless, eager, and apt, but dislike close and continuous study and dull routine and drudgery, and will run from it if pressed too closely. This class will make better students later in life, and study better after thirty years of age, yet will pick up and store away thousands of useful facts, apparently without effort, in childhood. They will excel in outdoor pursuits and enjoy outdoor labor even in early life. It is cruel to compel them to study closely and continuously in youth. The study of the sciences is natural to them. This class of persons (with a suitable brain system in addition) can become botanists, orchardists, navigators, naturalists, stock-breeders, geologists, hygienists, and succeed in similar occupations. By following these pursuits, their health, happiness, and usefulness will be promoted.

People of this type make cheerful and safe companions, for, as their organisms are filled with the oxygen and ozone of the atmosphere, their *moral sense* and *purity* of mind are *stronger* than in weaker developments of the thoracic system. They are also, as a rule, high-minded, filled with noble and philanthropic ideas, or ambitious to hold prominent and distinguished positions in society.

Persons with large lungs become poisoned with noxious air sooner than do those with small lungs. The reason of this is owing to the greater quantity of bad air which is inhaled in a given time. A large development of the thoracic system engenders a cheerful, sportive, ardent, courageous, and magnanimous disposition, and those who inherit and conserve this system will retain their youthful feeling and vivacity to an advanced age; hence it is that we find in the countenances of many aged persons a fine complexion, skin of a fine, soft texture, and but few wrinkles, as compared with others who do not possess as large a development of the thorax.

Among the eminent persons who have been endowed with a fine thoracic system, I may mention Julius Cæsar, Cicero, Wellington, Cromwell, Bonaparte, Patrick Henry, William Pitt, Henry Clay, and many other well-known warriors and orators.

The diseases which assail this system are acute and inflammatory, such as pneumonia, pleurisy, cerebral and pulmonary consumption, rupture of the heart, hypertrophy of the left ventricle of the heart, and inflammation of the lungs. These disorders are caused by the intense activity of this system. It is a law of human nature that we love to use most our strongest faculties.

Hence, those persons possessing a large thoracic system are apt to be too energetic, and to consume their vital forces by undue use of them. Such persons should avoid exciting scenes and all kinds of commotions in which the emotions take a leading part. They should live on some simple vegetable diet, sleep much, and pursue a steady unexciting occupation.

Those who inherit a feeble development of the thorax should live in hilly regions, engage in walking, running, boating, horseback exercise, and gymnastics, especially those which develop the upper part of the body. It is a circumstance worth noting that all the high-flying birds have larger lungs relatively than those that remain in marshes and fly low. The bones of the former are permeated with air-cells which contain air, and thus their flight is assisted by their frame being lightened by this peculiarity of construction.

All those races of men and animals that inhabit mountainous regions have larger thoracic systems than those who dwell in the plains. Naturalists tell us that fishes inhabiting mountain streams have larger air-vessels than those found in other waters, and the reason of it is that the atmosphere in those regions is rarer or more attenuated, hence the lungs are compelled to respire more in order to get the same quantity of air. Persons with small or weak lungs will find it advantageous to inhale the atmosphere of the hills, because it induces *activity* of the lungs and heart, and this causes a demand for more blood. The appetite, under the stimulus of this atmosphere will call for more food, the digestive processes will derive more nourishment from the aliment consumed, and thus the entire system will become invigorated by the improved quantity and quality of the air, while the lungs will be compelled to greater activity; and, as use increases capacity, many persons who have inherited weak lungs have been benefited and almost renewed by early change from low to higher altitudes. Thus much will capacity for and a full supply of pure air do for the individual.

A system of ventilation for public buildings and homes is the greatest necessity of the present age. We cannot expect pure-minded, noble characters to thrive and expand in close, ill-smelling, noxious dwellings. If we desire moral men and women, and those who are truly religious, our systems of drainage, sewerage, ventilation, and water supply will have to be amended before such result can be secured; for any system of Theology or Ethics which does not include Natural Law as its ruling principle will create no improved types of the human family, and will only succeed in producing a class of theoretic sentimentalists, *without the power* to be either *pure-minded, noble, or truly religious.* Fresh air, pure water, bathing, hygienic diet, and self-control, used according to law, contain all the fundamental principles of true religion, and will advance civilization to grander heights of purity, morality, and truth than all the dogmatic theories of centuries. Pure water and pure air are the first necessities of life, and must be obtained if a fine development of the thoracic system is desired.

THE MUSCULAR SYSTEM.

The next system in the order of development or evolution is the Muscular. It is in the Architectural Division, and assists formative effort of every kind whatsoever, whether literary, artistic, mechanical, or in the rebuilding of the human race. In analyzing the salient points of features of the Muscular System and Form, we must make a distinction between muscle and fat, as these two classes of tissues create and exhibit two distinct and opposite kinds of character. The predominance of the Muscular System is known by a rather broad form, with well-developed muscles and tendons; quick, elastic step; shoulders broad in proportion to the body; rather low or high and rounding forehead; the nose rather short and broad; full convex eye; round, short ears; short, thick neck, with a tendency to develop long, perpendicular wrinkles on the face.

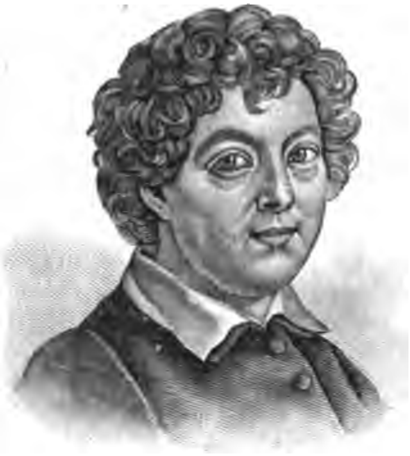

FIG. 9.—HERR FLEISCHMAN.
(GERMAN ARTIST.)
Muscular System supreme.

Writers of works on physiology and anatomy arrange the muscles into two general divisions, viz, the voluntary and the involuntary; but *scientific physiognomy* finds it necessary to take cognizance of and describe *every* formation which the muscles may assume, in the *outward conformation of the human body*. The six classes of muscles which we are obliged to take into consideration in the reading of character are as follow:—

Straight muscles.
Crooked muscles.
Round muscles.
Thin muscles.
Long muscles.
Short muscles.

Combinations of these produce the following forms:—

Round and long forms.
Round and short forms.
Thin and long forms.
Thin and short forms.
Crooked and thin forms.
Crooked and round forms.

The two divisions which are made by anatomists are termed the "Voluntary" and the "Involuntary." The voluntary muscles are those which are moved by the will and are the muscles involved in motion, such as the muscles of the arms, legs, trunk, and face. These are moved whenever the individual desires, and are the muscles of motion. The involuntary muscles are those which move automatically and are not controlled by the will or wish of man. These muscles are the large organs of the viscera, composed of fibrous material, and are moved by inward motions produced by the circulation of the air and the periodic movements of the heart, and the involuntary contractions of the stomach in digestion; hence the heart, lungs, and stomach are involuntary muscles, together with the valves of the veins and the several septums of the heart and other organs. The muscles of the larynx belong to a mixed class. In the production of sound they are wholly under the control of the will and are then voluntary; but in deglutition and respiration they are spasmodic and automatic, and are then involuntary.

A minute description of all these combinations is unnecessary for the general reader. Those who design becoming teachers and examiners can refer to the rules laid down for the "Basic Principles of Form," and apply those principles to the combination which they have under consideration. After learning the sort of character exhibited by the straight, the crooked, the round, the thin, the long muscles, etc., he can, upon observing any given combination in a character, make such observations upon it as the basic rules of Form declare to be correct.

The combination of muscles which are most commonly exhibited are the short and round, and the long and thin; yet they are sometimes found mingled in just the opposite manner, and then they point to characteristics easily understood by those who learn the principles upon which they act and the kind of character which each simple uncombined sort discloses. Those with short and round muscles have relatively broad and short figures, with thick chests, broad shoulders, thick neck; low, broad heads, and particularly broad above the ears; the joints small and well covered; the fingers tapering and nails oval; the feet short and thick, with high instep; the forehead broad and rounding outwardly at *the sides* and rising in an almost straight line from the eyebrows upward. The face is round or oval, cheeks full, nose round, eyes large and convex, chin often dimpled, hands and feet small, and the limbs short, round, and tapering. The functions most active in this class are those of digestion, circulation, and motion, and the heart, lungs, and stomach are strong and large. The mental constitution disinclines to study, for love of motion here works against close application to books.

The predominance of the vital organs, as shown by the strong development and action of the muscular organs, the heart, the lungs, the stomach, the reproductive system, and veins, gives great muscular strength, love of eating and drinking, social enjoyments, athletics, music, dancing, etc., and love of the opposite sex, animals and children. This type of character is inclined to commercial business and speculation, contracting, brokerage, and all classes of trades which bring in the social element and allow of motion without hard labor. The noted Jim Fisk, of Erie Railroad notoriety, is a good specimen of this class. Those with a good brain development in combination will exhibit capacity for surgery and military life. Napoleon I illustrates this combination. The army includes many surgeons of this build.

Where the muscles are of the long and thin type, the character has less of the aggressive and more of the sentimental cast, owing to the fact that the internal viscera are relatively less round and the motor muscles longer and thinner than in the former class. This difference in muscular structure shows in the face in several ways. The face is relatively long and the chin oval. The nose is higher, thinner, and longer than with the former, the cheeks not so full and round, and the eye, although as large and round, not as convex or full as the above. The affectional and intuitional traits are well developed; yet the sentiment of love of the opposite sex and of children will exhibit itself in a more *refined* manner, and the commercial instinct will not be so pronounced as with the former. The head rather high and narrow, the limbs and body long, the joints, knuckles, etc., appear rather prominent, the bones of the fingers pronounced, and the body lithe and flexible. Mentally, this build will have capacity for some form of art, will enjoy domestic ties and possess true conjugal feeling, sincere friendship, and, with a suitable brain-formation, will be inclined to languages, *belles-lettres*, and metaphysical studies.

These two different and distinct formations are so often met with and so thoroughly described as to make it quite easy for the reader to give the delineation correctly. Where certain variations are observed, as, for example, if the combination presented should be round and long, some of the characteristics common to each of these forms will be present; or, if the combination should present the thin and short type, or the crooked and round, or the thin and crooked, which is rare, the reader has only to apply the general law governing the two distinct forms of muscle.

The many and varied expressions of the human face are due to the action of a great number of muscles; there are found in the face thirty-six pairs and two single muscles, and in the body more than five hundred. The eye contains more muscles, more active ones, and those which express more thought, than those of any other part of the body; hence the eye, being a mass of muscles, is the facial exponent of the muscular system. When we desire to know the muscular development of an individual, we can safely trust to the eye for our knowledge. The larger, more convex, and deeper colored the eye, the greater the degree of strength in the muscular system. Small or depressed eyes with sunken orbits always denote less muscular power than large full eyes, and pale-colored eyes indicate less vigor than well-colored ones. A comparison of the eyes of all muscular animals is one proof of this statement. Examine the eyes of the deer tribes, the gazelle, springbok, hare, rabbit, etc. In all these creatures the muscular predominates over the osseous or bony system. The bull is an example of great muscular power, as well as the bull-dog, and both have great convex eyes. Light-colored eyes do not denote as much vigor of the muscles as dark eyes, but this branch of the subject will be considered under the head of Color.

All eminent artists, actors, singers, musicians and sculptors are endowed with a fine *quality* of muscle. Observation of their physiognomies will reveal the fact that they have large bright eyes. The nature of their professions requires a fine as well as strong muscular system. Inasmuch as all parts of the organism involved in the production and reception of tone or sound are in the muscular system, it follows logically that we should look to that department of the body for capacity in this direction. The vocal cords, the larynx, the tongue, the lips, as well as the ear, are all engaged in the production and reception of tone or sound. In artistic works, such as acting, painting, and sculpture, the muscle must be in excess in order to *take command of the bones;* hence we find that nearly all artists are round-built persons. They are lithe and elastic like muscle itself.

In speaking of artists as muscular persons, it might seem to the unobservant that this is incorrect, since a muscular person is usually thought of as being developed like an athlete or blacksmith. Now, *size* of muscle is not the only indication of power, for we know that horses training for racing are exercised with a view of *decreasing the size* of the muscles in order to make them more dense and firm; in short, to improve their quality. *Quality* is the dominating principle all through Nature.

Many large men are weaker than some much inferior in size. It is the *inherited quality* which first gives superior power; afterward exercise must keep up the natural tone and vigor of the system. The muscles of a dwarf might dominate his bony system, I should then classify him among muscular men.

Observation of the faces and forms of all eminent artists will give all the proof needed on this point. It will be seen that they possess large, wide-open eyes with arched eyebrows, the bones small at the joints and the fingers tapering—every part and member disclosing a *rounder* appearance than where the bony system predominates. For when Nature creates an artist the hands and feet are those of an artist, and agree with the shape of the head, the face, and body; all alike are artistic, and the physiognomist is able to discern this character in the hands and fingers, in the shape of the finger-nails, as well as in the features of the face and roundness of the body.

The following description of the various powers of the muscles in the human organism will give some idea of the mechanical and artistic principles included in the action of the muscular system. The human body combines within itself almost all the principles of natural mechanical forces; for instance, the arch in the thorax, shoulder, and hip; the different lever powers in the action of the muscles upon the bones, one principle of which is well illustrated in the action of the biceps muscle in flexing the arm; so, also, in the flexors generally, namely, that in which the force is applied between the weight and the fulcrum. Second, the action of the triceps muscles on the ulna in extending the forearm is an instance of a lever power where the fulcrum is between the force and the weight. Third, the example of a lever applied to a weight between the fulcrum and the force may be seen in the action of the abductus magnus muscle of the thigh in abducting the femur. The different joints are well illustrated in the ball-and-socket joint in the hip and shoulder; the hinge-joint in the elbow, ankle, and knee. We have also joints with lateral motions as well as with flexion and extension, in the wrist; a joint with a gliding motion, as in the temporo-maxillary and sterno-clavicular articulations. Then we have the mixed joints, as in the articulation of the sacrum to the iliac bones in the vertebræ, and in the immovable joints, such as the sutures, etc. We have also the different principles of valves in the heart and veins, and in the pylorus between the stomach and the duodenum, and the representation of a pulley in the action of the superior oblique muscle in rotating the eye.

These are some of the mechanical forces which inhere in and regulate the several parts of the muscular system; other principles will be shown in other systems of the body as we reach them in their proper order.

The action of the muscular system gives ability for artistic, emotional, literary, religious, and executive effort. The faculties that have signs located in this division and that depend mainly upon the muscles for their power, are the following, viz., Cautiousness, Sanativeness, Force, Resistance, Secretiveness, Imitation, Sublimity, Human Nature, Constructiveness, Acquisitiveness, Veneration, Self-will, Credenciveness, Prescience, Observation, Memory of Events, Weight, Calculation, Locality, Music, and Language.

Magnetism is a force belonging exclusively to the muscular system. The most magnetic orators and those persons endowed with power to heal through magnetism are very muscular, and have either size or fine quality of the muscles or both combined. The animals that exhibit magnetic power are also muscular. I suppose that the mineral constituents of muscle must be those which create magnetism. But this branch of science—histology—is yet in its infancy, and it is hoped that further experiment will give us more accurate demonstration of the laws and principles governing animal magnetism and its uses.

From the preceding exhibit of the varied powers of muscular action, it will be seen that this system belongs to the Architectural Division of the organization, and, in combination with the osseous or bony system, which will next be treated of, constitutes the building powers and capacities of man. Individuals in whom these two systems are well defined are constructive, often artistic, religious, emotional, and amative, and, with a suitable brain in combination, excel in literature as novelists, actors, dramatic writers, etc. Many highly emotionally-religious persons are found to be endowed with a fine quality of muscle. It does not follow that they are moral, also. Emotion in *excess* is opposed to morality; yet at the same time it assists ardor, zeal, faith, and imagination. In those races that exhibit the most Credenciveness—that is to say, the most faith and belief—there will be found the predominance of the muscular over the bony system, as, for example, in the Hebrew, the Turk, the Persian, the Arabian, the Mongol, the Celt, and the Hindoo; and what is true of races applies with equal force to individuals. Those in whom this system predominates are apt to be contrary (not obstinate), changeable, and shifting in moods and tempers, affectionate and amative, with plenty of physical courage, adepts in commercial life and in mystic religions, preferring one in which faith is a leading principle. They make good companions in marriage, as domesticity is one of their ruling tastes, are also social, fond of gay, sportive companions and athletic pursuits, enjoy bathing and swimming and liquid foods, such as soups, milk, soda, lemonade, etc. However, they should never indulge in intoxicants, as, having great power of assimilation, strong liquors will cause them to become dangerous and destructive.

The diseases which assail the muscular system are derangements of the liver, acute rheumatism, dumb ague, bilious colic, cramps, softening of the brain, muscular exhaustion, and valvular disease of the heart,—all consequent on too great exercise or emotion, to which the system is liable.

An early training in morality and the rights of others is highly essential, for suffering, disgrace, and an early death often follow the unrestricted indulgence of the temper and the tastes which accompany this system—where it is greatly in the ascendant.

The most eminent men of ancient and modern times have been noted for a fine development of the muscular system. In ancient Greece the Isthmian, Nemean, and Olympian games were national, and large numbers of the citizens trained for the periodical exhibition of athletic sports. Even the women and children had their own gymnasia and baths, and at no time in the world's history has the human figure, particularly the female figure, attained such perfection as in ancient Greece. A close observation of the statues of the classic sculptors will disclose the development of certain muscles about the female waist and abdomen which are not to be found in the modern woman. The *disuse* of these muscles has caused an atrophy or shrinking of them, and modern women are, without exception, born with waists too small, and *entirely changed from the normal type and standard.* The lines of the body should curve *outward* from the bust to the hips. In modern women this form is *completely reversed.*

The more we investigate man physiologically, the more is the conclusion forced upon us that the dominant systems of man's organism control and guide his acts and capacities. It was by ignoring the investigation of man's physical powers and functions that we were so long deprived of a practical method of studying the mind of man. But the instrumentalities for such research were not in existence until recently, as, for example, the microscope and chemical discoveries. A complete revolution in the science of Human Nature must ensue before we can comprehend the motives and character of man. Herbert Spencer, in his essay on education, remarks:—

> Without acquaintance with the general truths of biology and psychology, rational interpretation of social phenomena is impossible.

And he also says:—

> The actions of individuals depend upon the laws of their natures, and their actions cannot be understood until these laws are understood.

Now, the theories of the ancient metaphysicians were not founded on an intimate knowledge of either physiology or the laws of mind, as revealed by investigation of either bony, muscular, or brain and nerve systems. They were most of them simply speculative theories which had no basis in fact and no foundation in reality. They were like the loves of the poets,—creatures of the imagination merely.

If we desire to advance in exact knowledge of *real human nature* we must cast out the ancient dogmas, which, venerable as they may be, are untrustworthy. We must, instead, interrogate Nature face to face. First learn the facts, then manufacture the theory in accordance therewith. Formerly, the method was to construct an abstruse theory couched in incomprehensible terms, and let the facts shift for themselves. Then the necessity for faith and belief arose, and was at one time considered the crowning virtue of human character. *Now*, childish credulity is looked upon in adults with a pitying eye, and we feel both sorrow and contempt for him who is too weak or too cowardly to grapple with the truths of Nature lest they overthrow some time-honored error which he is cherishing.

Fortunately, some eminent theologians have recognized this fact, and have boldly entered the arena of discussion.

When we wish to understand the emotions which play so important a part in the drama of life we must look to the physiological and anatomical development of individuals and races, for it is to the muscular system mainly that we are indebted for the power to manifest will, emotion, and expression, both of the face and body. The great number and variety of the muscles of the face alone, where expression is most manifest, will vouch for the truth of this statement. The eye alone expresses more feeling, will, mental energy and capacity than all the other muscles combined. I do not say that it performs more labor, but that it *expresses more* of the physical and mental characteristics of the individual than any other portion of the muscular system, and the reason why it does this is explained by the fact that the eye is a *mass* of muscles. Added to this power is the fact that the optic nerve also finds its centre and seat here. The eye not only brings the world *into* the mind of the individual, but also shows *to* the world the will of the man as he stands revealed before our gaze. The muscles of the eye and the optic nerve bring to us the bulk of the knowledge which we acquire. It is true that we can *feel* heat and cold; we can taste, smell, hear, and touch without the use of our visual organs, but the world of form, of architecture, is unknown without this sense. The sense of color and the knowledge of form bring to us our most useful and practical acquirements, and to the use of the muscular system are we indebted for much that is practical and necessary; hence, the importance of endowing our offspring with a good share of this system. It is a fine inheritance to leave them. It can be improved by food and exercise, rightly applied, and those who make gymnastic exercises a daily duty and pleasure are laying up a store of goodness, which, whether they desire it or not, will be transmitted to future generations, and "thus do our deeds follow us."

When we examine the nature of muscle we find that although it is powerful in *expressing emotions*, it is wanting in feeling, in sensitiveness. Hence we find that muscular people, although able to express emotion, have very little of that keenness of sensation which those have who are endowed with a fine nervous organization. Emotion is not sensation, and thus it is that often those who seem to feel the most, in reality feel the least. If one could cut a muscle without striking a nerve there would be little, if any, feeling experienced. It is only by analyzing the constituents and nature of the several systems in the body that we are able to give to each its own appropriate share of work.

This method enables us to relieve the brain of a large share of the labor which former theories of the mind have ascribed to it. Hitherto it has been a poor overworked organ. If the brain is capable of all the labor which has been assigned to it by metaphysicians, of what use, I ask, are the several ganglia, the plexuses, the muscles, and the visceral organs? We must either divide the labor equitably or declare the utter inability of the last mentioned to assist mental manifestations.

THE OSSEOUS OR BONY SYSTEM.

Observation of the order of progressive development in the lower animals shows that a perfected bony system was the result of life upon land and in the open air. As soon as the Amphibia had ceased their life in the water, a race of animals was evolved from them which, instead of using air-vessels for the purposes of respiration, developed a true lung system that was no longer suited to life in the water. This necessitated a great many other changes in the anatomy and physiology of animal life. A heart and blood-vessel system became necessary, as the lungs and heart are correlated and essential to the existence of each other. A strong and true bony system became also a necessity in place of the cartilaginous one of the fish tribes. This strong bony system was needed to which to attach the muscles, as life on the land required a better muscular system for purposes of locomotion and for the getting of food. Accordingly we find that the order observed in the lowest forms of animal development, as shown by geology and evolution, was in the following manner: *First*, the chemical or vegetative; *second*, the thoracic or breathing power; *third*, the evolution of the muscular system; *fourth*, the bony system; *fifth*, the perfected brain and nerve system. All through these various growths and developments (which doubtless took millions of years to complete) the brain and nervous system had gradually developed. As each animal organism took on a more and more complex organization, a more complex nervous system and larger brain was necessitated. When muscles were developed, as we find in the body and legs of Amphibia, the intelligence essential to their use was evolved simultaneously. When the bony system became perfected, a higher *quality* of cerebral power was exhibited. The perfecting of a true bony system marked a great advance in the animal, not only by reason of the substantial quality of the constituents which enter into its composition, but when an organism has arisen to the grade of development which is marked by the possession of a perfected osseous system we find that there is a *higher quality* of both body and mind, as we shall learn later on.

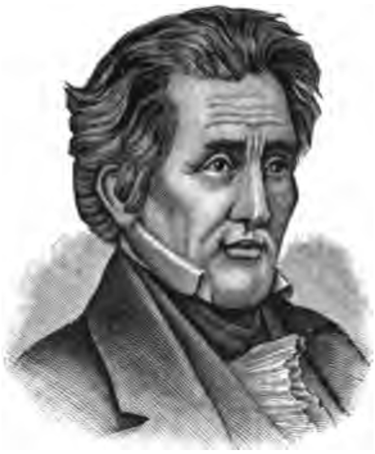
FIG. 10.—ANDREW JACKSON.
Osseous System dominant.

But we do not find the highest degree of mental power until we reach the order Mammalia, which is endowed with a more perfect reproductive system as compared with the lower methods of reproduction, viz., by fission, gemmation or egg-multiplication. The higher and more complex method of mammal reproduction demands more intelligence in the rearing of the young and for the getting of food and other purposes of the animal.

Hence we find in the order Mammalia, which includes both our wild and domestic animals, as well as Man, a far higher grade of intelligence than is observed in all the lower races—the fishes, reptiles, and birds. Now, what is the logic of this correlated development? We find that as physical functions have evolved, intelligence has increased; that mentality has associated itself with the physical functions; that a creature endowed with wings is more intelligent than a simple jelly-fish. We must, therefore, deduce the theory that physical functions and mental faculties are in close relation to each other, and if by observation we can ascertain which functions and faculties are connected, then we have all that is necessary to discern character, simply by observing the physical development of any order, species, or individual.

In the preceding remarks it was stated that the greatest advance in the intelligence of animal organisms was made simultaneously with a more perfected reproductive system. In the human family, the most developed and perfected races will be found to possess a developed reproductive system. All the great creative artists, such as poets, painters, actors, authors and sculptors, are developed men and women; that is to say, are well sexed; and this development is the base of creative talent. This function and faculty have been wholly misunderstood and their office and action not at all comprehended in their entirety. A reference to the faces of all our great creative minds will show the sign for Amativeness and the reproductive system to be well defined; and this is another fact proving the relation of physical functions to mental faculties.

The osseous or bony system (Fig. 10) is known by height, large joints and bones, high cheek-bones, and projection of the lower part of the forehead over and beyond the eyes; prominent and broad chin; large, bony hands; long, flat, bony feet; prominent joints and knuckles; tips of the fingers inclined to the square form as distinguished from the oval or tapering form of the muscular system; and relatively small, angular head, rising high above the ears.

There are six classes of bones to the meaning of which the physiognomist must pay strict attention. To those unused to the close observation essential to discerning these slight variations of structure, they may seem trivial and unimportant, but let me say that in Nature's broad domain there is no form insignificant, no matter how minute. How much more important must every slight variation of form observed in the human face be when we reflect that in it are to be read the physical, moral, and mental traits of the individual, together with all his individual peculiarities, as well as "all the traits of all his ancestors," as Emerson aptly remarks!

"To despise the minute in Nature is to despise the infinite," and so we shall come to the study of the following-named classes of bones with increased understanding of the close observation which the several variations of the bony structure demand.

Classified and combined as follows, they have a pregnant meaning:—

CLASSIFICATION OF THE BONES.

Straight bones,
Crooked bones,
Square bones,
Round bones,
Long bones,
Short bones.

Straight and square bones,
Straight and round bones,
Straight and short bones,
Straight and long bones,
Round and short bones,
Round and long bones,
Round and crooked bones,
Long and crooked bones,
Short and crooked bones.

It will be observed by reference to the above that there are six simple formations of the bones, each indicating something distinct from the others. The adjective employed to describe each form will reveal to the reader its condition without elaborate description. I have never found that nature crooked which was produced by combination of the straight with the square form of bone. This combination produces and denotes the most solid character, and as it is composed of a rocky material, viz., lime, and shaped in the *most enduring* form, it is, we might say, incapable of becoming crooked.

The nature of bone gives solidity, firmness, and integrity to the organism, but where it is crooked by Nature, then this signal is thrown out to tell the observer the character of the individual. Where the bones are round and small, the character possesses less firmness and integrity, less capacity for endurance and resistance; but it exhibits ability to execute curved motions, as in gestures, writing, dancing, etc., and to produce curved or circular work with tools; hence such persons are adapted to art-work. They are like the animals which exhibit similar formations, such, for example, as the mole, squirrel, and beaver. These are all highly artistic in the constructions of their dwellings, and have round bones, and are quite skillful architects. They are also playful, lively, and fond of motion, and all possess the combination of round muscles with round bones; while horses and several species of dogs exhibit square bones combined with round muscles, and these animals exhibit less artistic talent than the former, but more of the moral, solid, reliable, teachable and practical traits of character.

There are several causes in Nature which assist in forming and developing a good bony system. These are, first, water, in which lime is a large constituent; next, a diet of grains, into which lime enters in the shape of its phosphates. These grains are grown in a soil from which the phosphatic elements are extracted by the grain through chemical action in the process of growth. The next influence favoring bone development is exercise in the sunlight.

In this exhibit of what constitutes bone, we observe that the most *substantial* material in Nature enters largely into its composition. The very material of which rocks are made is found, upon analysis, in the bones of man as well as in those of the higher animals; hence it follows that those in whom the bony system is dominant will be the most reliable and trustworthy. The bony system is composed mainly of lime in two forms—the carbonate of lime and the phosphate of lime; these two materials form the solid part of the bones. It is found also in the teeth, muscles, blood, and cartilages; in the gastric juice, the blood, and secretions, it is in the fluid form. In the bones, teeth, and cartilages, it assists in making them firm and solid. The enamel of the teeth, which is the hardest substance in the body, is composed mainly of the phosphate and carbonate of lime, and in the ivory of the teeth these form a large part of the constituents. In the bones, more than one-half is found to be composed of these two forms of lime. It is lime which gives to the bones their firmness and solidity. If we were to soak a bone in a mixture of muriatic acid and water we should dissolve from it all the mineral ingredients and leave nothing but the animal constituents, and should then find it so soft and flexible that, if we were to treat one of the long bones of the body in this manner, we could tie it up in knots just as we can a rope.

Lime is found in the various grains, in milk, and in lean meat. Salt is another useful element, not only in the bones but in the several tissues. In connection with water it is found in every portion of the body,—in the bones, tissues, and the various fluids and secretions,—and is necessary in digestion, where it assists by chemical action the various processes of assimilation. The taste for salt is, therefore, natural and necessary. The taste for pepper is not natural, inasmuch as that is not found in any part of the body, and has no use in the human economy. Black pepper is highly indigestible and inflammatory. There is no similarity between these two constituents. Pepper induces disorders of the stomach and kidneys, and should be used like all spices, for a remedy and not for food, as it cannot be digested like salt. Salt, lime, and water are found in every part of the body, and are natural and necessary to health and life. Salt we derive from the air and water; lime comes to us in our food in grains, fruits, etc., and if we use them as Nature has provided we shall rebuild our blood, bones, muscles, nerves, and brain with the materials which they require for their replenishing; but if we cast out the phosphates of lime and the carbonates, as we do in making fine white bread, we shall have nothing to assist the repair of the bones, muscles, nerves, and brain, since the phosphates are rejected by this mode of preparation. A man would starve in a short time were he fed on foods deprived of lime and salt; neither would he exist on a diet which did not contain starch or animal fats, and fat is created both from animal and vegetable foods, as chemical analysis shows.

This exhibit of the composition of the bony structure informs us at once why it is that those who possess large and strong bones are more firm, persevering, reliable, and honest than those with smaller and weaker ones. The more fluid lime dissolved in the blood which goes to make up the solid parts of the organs, such as the heart, the lungs, the liver, the kidneys, etc., the more integrity and strength will these tissues and organs possess. A comparison of the animals in which the bony system predominates, with those in whom the fat and muscle are in excess, will give us a correct idea as to how the bones are related to integrity and stability. If honesty were a sentiment merely, something which could be taught, then the one *best taught* on this subject would have the most reliable character, but we know full well that some are more naturally honest than others. We know that some have more ability for music or painting than others, and we find by observation that those who are skillful in music, etc, are so mainly by virtue of an organism which fits them for this art; that some are musicians without instruction, while others are not able to be taught because they are lacking in the proper construction of body; in short, they have not the right muscular development for this purpose.

A comparison of the highest and most useful animals—the horse, the dog, the camel, and ox—with the rhinoceros, the hog, the coon, the skunk, the porcupine, the panther, and tiger, will show us a physiological combination as distinct as is that of the mental and moral characteristics of each class. The rhinoceros and hog, by reason of their excess of fat, are too vegetative to be either moral or intelligent. The mole, the coon, the skunk, the porcupine, the cat, the rat, etc., have relatively small bones and large muscles, and they are suited to slyness, skulking, deception, and craft,—to live in the shade and prey upon others. While the bones of these creatures are hardly perceptible, their bodies are sleek, sinuous, graceful, and quick-motioned, and they are quite artistic in some of their habits,—the beaver and mole, for example, building their houses on excellent architectural and artistic principles. Now compare the camel, with his great, homely, ungainly, bony structure, and his fidelity and usefulness, docility and intelligence; compare him with the graceful, gliding, sleek-looking tiger; compare the bony ox, with his great joints, his patient and useful ways, with the hog; compare the horse, with his bones jutting out over his eyes, his large hip-joints and bony face, his mental development and observation, with the unwieldy, stupid, and brutal rhinoceros; compare the intelligence of the former with the ferocity of the latter; compare the fidelity, usefulness, and *forms* of all these various creatures, and you will find in every instance that the bony formation gives and exhibits integrity, reliability, intelligence, and morality, as compared with those forms that resemble the muscular and vegetative or fat animals.

Fat *in excess* is not honest, whether we find it in man or beast. Fat, by its lack of resistance, is negative and self-indulgent, and is not capable of self-control; muscle in excess is unreliable, and by the nature of its *constituents* and *action* is changeable and shifting; it moves with rapidity and changes constantly, and is not built of such substantial material as bone; hence, it is suited to artistic pursuits, while bone is suited to mechanical and scientific occupations, for mechanical individuals must have physical order and a good, true eye for angles and straight lines. They must have patience and perseverance, steadfastness and integrity, in order to produce straight and square work. In every age and country the most reliable, honest, and upright men are (as a class) its mechanics. They perform honest work; the very house that we dwell in must be *plumb* and built on the *square*, or it will fall to the ground. The scientist, too, must possess a large share of integrity,—of bone. Inasmuch as he has the ability to comprehend the truths of Nature, he must be built on Conscientiousness, else he would be incompetent to comprehend the laws of Nature, which are all based on absolute truth and mathematical certainty and precision. Newton, the discoverer of the most important law of Nature, viz., gravitation, was a square-boned man, and Conscientiousness is large in his face. Now, all persons and animals must have bones in a greater or less degree, and in the degree that they have good, square bones are they capable of honesty, morality, and fidelity. Hence the importance of endowing offspring with a good, square, bony structure. We cannot do this if we feed upon fine white flour, or allow our children to consume too much sugar and other carbonaceous food. If we look abroad for our proof of the action of the various kinds of food as it relates to bone-making, it is only necessary to refer to the low stature of the Lapps and Finns, who subsist mainly on a fish diet, and whose bones are both small and short, while their near neighbors,—the Norwegians, Swedes, and Russians,—who live upon a farinaceous and vegetable diet, are much their superiors in stature and strength. But the subject of bone-building I will consider later.

I will here note some of the prominent men who have excelled in morality, endurance, heroism, and honor, and in every instance we shall see that each one possessed a large and fine quality of bone. Our own Washington was six feet three inches in height, and broad and square built. Andrew Jackson was above the medium height, and the bones jutted out all over him, in the eyebrows, the cheeks, the chin, the forehead, the joints and knuckles. Lincoln, too, shows a very bony organization, and was more noted for his fidelity to principle than for great intellectual power. Had he been made of soft, fatty tissue, the results of our late war might have been quite different. General Lafayette's portraits show him to have been possessed of good bones; likewise Alexander the Great in ancient times, also Cæsar, Mahomet, and Cromwell. Luther had a very large bony structure, with a powerful vegetative system, and a fine brain. Isaac Newton, Lamartine, James Watt, Humboldt. Cuvier, Washington Irving, von Liebig, David Livingstone, Charles Darwin, George Stephenson the inventor, Peter Cooper, and a host of others, who have shown by their lives that integrity, morality, and mechanical and scientific powers were theirs, possessed large, bony development.

It makes quite a difference in our powers of endurance, either moral or physical, whether we have four or six feet of bone in our bodies. It is true that the persons just mentioned had fine brain systems in addition, but without the same amount of bone and with muscle in its stead they never would have evinced such rectitude, endurance, and reliability, as with the large bones in combination. The greatest and most useful men and women have been those with the bone and brain systems dominant. The greatest artists have been those with a fine quality of the muscular and brain systems combined; hence they form a less useful class than mechanics and scientists. They are, also, less reliable and moral, but more entertaining.

The record of the purely vegetative men is limited to a few, who succeeded in becoming prize hogs in appearance, notably, Daniel Lambert, Vitellius, the Roman Emperor and glutton, and some few others whose fame rests entirely upon their fat, selfishness, and immorality. The bony structure is the foundation and framework of the human organism, upon which is built the entire organism, and to the predominance of the bony structure man owes his character for integrity, stability, and physical and mental soundness. The very constituents of bone—lime, phosphates, magnesia, soda, etc.—give stability, integrity, decision, and firmness to the organization in which they abound most largely; hence the bony system is the one in which, *from the very nature of its com-*

ponents, we naturally look for the most stability and trustworthiness. Tall, lean, square, bony people are noted for their usefulness, unselfishness, integrity, and generally for mechanical ability. Bony people, with a fair proportion of the muscular system in combination, make the best mechanics in the world. Length facilitates activity, while muscle combined with a large bony structure gives the form essential to mechanical construction.

This system is included in the architectural division of the face and body, and has for its assistance the muscular powers. These two systems combine and include most of the principles of natural forces, as has been shown, and persons in whom this combination is largely developed will have not only the power to become good mechanics and artists, but will be able also to build up and perpetuate a fine race of children, if proper attention be given to combinations with suitable conformations, added to righteous regard for hygienic and sanitary laws. It will be perceived from this analysis and illustration of the bony system, that the human organism is dependent upon bone development for all those attributes which go to form stability and integrity as well as architectural and mechanical ability. These principles lie at the very foundation of physiology, anatomy, human greatness, moral goodness, government, and society; and in every age, country or community, noted for its justice, probity and true civilization, there will be found upon examination a majority of its people built upon this conformation and possessed of mechanical powers.

In selecting trades for young people, due attention should be paid to this principle of Nature. A neglect of its application will result in failure, and one reason why we sometimes find poor mechanics is that they have mistaken their vocation and chosen a pursuit to which their conformation was unsuited.

The signs of the bony form predominant are found *all over* the individual, in the large joints of the hands, fingers, wrists, arms, and legs. The projection forward of the lower jaw, the projecting of the brow over the eyes, and the high, long, bony nose are all evidences of a conscientious and morally-inclined character; indeed, the square bony system may be depended upon for moral conduct. The large development of bone shows that the fluid circulation has done its primary work in a thorough manner, and has conveyed all the materials needed in bone making to their several destinations in just the right proportions, thus giving soundness to the whole framework. Size and Form, Physical Order, and Calculation are some of the prominent faculties in this system, as well as Veneration and Executiveness. Conscientiousness is seen all over the individual in whom the bony system predominates over all the other systems.

The list of faculties in the architectural division is as follows: Sanativeness, Secretiveness, Force, Resistance, Hope, Cautiousness, Imitation, Constructiveness, Analysis, Ideality, Sublimity, Human Nature, Self-will, Executiveness, Credenciveness, Prescience, Observation, Memory of Events, Form, Size, Weight, Color, Order, Calculation, Locality, Music, and Language. Some of these faculties are derived from the functional action of the heart and lungs; others from the power of the muscles and bones. Hope is related to the liver, Color to the lungs and heart, and Veneration to the stomach. Every faculty depends upon some organ or system of functions for the power to exhibit its peculiar mode of activity.

In all cases where one system is found in excess in an organism, no matter how useful it may be, we shall find that it is productive of various disorders and predispositions to certain diseases. An excess of bone makes the system liable to chronic rheumatism, torpid conditions of the liver, the spleen, the stomach, and bowels, enlargement of the joints, gravel, granular degeneration, stone in the bladder, disorders of the digestive functions, and inclination to melancholy as old age advances. An excess of bone also causes laziness and inertia; the bones being too heavily charged with mineral matter disinclines the individual for motion, hence he will care only for work that can be done in a sitting posture.

The remedy for an excessive development of bone is to drink water that has been purified from all traces of lime, to remain in the shade as much as possible, to study more, to eat less farinaceous food and adopt the diet of the carnivorous animals, whose bones are smaller than those of the grain-eaters. Stimulate the sensitive parts of the nature by indulging more in light, active games; cultivate the emotional parts of the mind by attending theatres and balls and by associating with the lively and light-minded. By pursuing this anti-bone-making course, the tendency to these diseases may be avoided and the bulk of bone may be reduced considerably in a few years.

Getting health is like getting religion—it comes by struggling for it. In fact, good health seems to me a really religious condition and ought not to be considered as distinct from it.

If, on the other hand, the bony system is too poorly developed, inactivity and weakness are the result. When we observe a person with small, thin hands and feet, with large brain and small abdomen and short, small, round bones, we know that he is doomed to a short life and one of suffering, unless hygienic treatment comes to his relief. Drugs and doctors cannot alter such conditions, but will do more harm than good. Only Nature, the Infallible One, can regenerate such beings. Calisthenics, gymnastics, outdoor exercise in pure air, and lime-water, with farinaceous foods will do more for such boneless creatures than all the drugs in existence.

When we come to comprehend fully the differences existing between the various organ systems of the body, we shall recognize at a glance the main points of character. We shall see that bone gives more integrity and power of resistance, with love of science and mechanism; that muscle indicates emotion and affection as well as passion and artistic ability; that fat assists in softening the emotions and gives warmth to the system. It must be apparent to the thoughtful that we do not love with our bones—that all parts of the body concerned in emotion are found in the muscular and soft tissues. All the parts of the organism involved in reproduction are mainly in the muscular and glandular system, hence when we wish to know the degree of Amative sentiment in an individual we must look to the facial representation of the muscular system—the eye; we must mark its shape, size, and color, its degree of activity and brightness. If the eye be large, bright, well-colored—either blue, brown, or black—then we can safely say that such an individual is highly emotional and affectionate, and artistic as well; but when we observe a bony person with large joints, small muscles, long, slim, bony fingers, and small eyes shaded by a full, projecting, bony brow, then we know that he is more thoughtful than emotional or amative, with considerable control of all the emotions. This class of persons is mechanical, inclined to science, given to reforms and original radical ideas rather than to imitating artistic efforts. In this class are found such men as Charles Darwin, Richard Owen, the naturalist; Professors Morse and Edison, the electricians; and, among reformers, Wendell Phillips, Richard Cobden, Peter Cooper, Thomas Paine, Susan B. Anthony, and others well known for reform work.

A good degree of bone offers a steady resistance and pressure; muscle has a reactive power, moving first in one direction and then in another; hence muscular people are not so reliable as bony ones. Muscle shows itself in will-power, in sudden bursts of temper as suddenly subsiding, while bone offers a steady but calm resistance, and this is the difference between the two faculties of Firmness and Self-will.

Fat is yielding, without the ability either to withstand or to overcome. It is negative in its nature, utterly unreliable, except where we find it in combination with a good bony structure and considerable muscular development.

This concludes the description of the architectural division of the face and faculties. The term "architectural" is used in its broadest and most comprehensive sense. Whatever exists is built and has a form; not a particle of any sort whatsoever is found without form and without combination with some acid, gas, ether, or solid substance; thus it is architectural. In works of art the same principle applies. In dramatic composition, in works of fiction, and in the sermons of the preacher, the same *mechanical constructive principle prevails.*

THE BRAIN AND NERVOUS SYSTEM.

In entering upon the investigation of the brain and nervous system, I shall depart from the usual methods employed by writers on this subject, and, instead of giving cuts representing the interior of the brain, which can afford the reader no clue as to its functions, I shall devote my space to a discussion of its origin as exhibited in the lowest forms of animal life, and then describe its appearance in the exterior of the organism by facial and bodily indications. Anatomists, in dissecting the brain, are almost entirely in the dark as to the use and connection of the several parts of the brain with the various organs of the body. With the exception of being able to trace the course of the optic, auditory, olfactory, and facial nerves to their origin in the brain, the functional action of the several portions of the brain are still as great a mystery as ever. Very recent observers have mapped out on different parts of the cerebral hemispheres certain areas which are thought to be the representatives of certain mental faculties. The faculty of language is thought to have its representative in one of the frontal convolutions, and this convolution is found in a rudimentary stage only in the anthropoids, but fully developed in man, the only creature endowed with the capacity for perfect language. Other areas of the brain are thought to be the *locale* of other faculties, but as yet these are not firmly established. Yet I believe that every function, as well as every faculty, must be represented in the brain and have "a local habitation" in that organ,

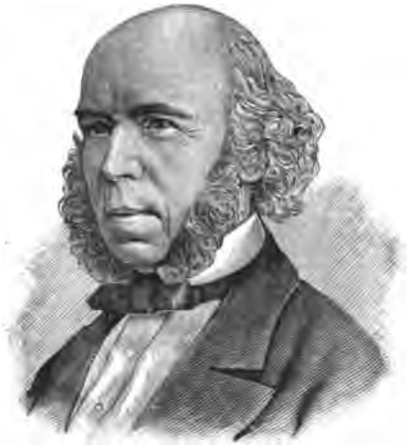

FIG. 11.—HERBERT SPENCER.
Brain and Nerve System supreme.

where all sensation is wrought into consciousness and translated into thought and emotion.

The *face*, read scientifically, will give the clue to the right analysis of the various parts of the brain, and any anatomist who will take as a basis of investigation the evolution of the organ systems of the body, as shown by Haeckel in his "Evolution of Man," can trace the connection between the organs of the body and the several parts of the brain. My understanding of the brain is that it is *functional* of the *entire* organism, and not an organ acting independently, but affected by morbid or abnormal conditions of the blood and visceral organs. I believe that all parts of the body have representation in the brain, and that these representations are *localized*.

My researches have led me to the conclusion that size of the brain alone is not the proof of great mental power nor of the lack of it; that its *form* and *congenital or inherited quality* are the two most potent factors in deciding its power; also that a proportionate and normal degree of physiological development of the body, as well as of the brain, is far more influential in deciding mentality than size of the brain alone; but the question of size and form I will postpone until I come to the consideration of the "Sub-Basic Principles."

In tracing the course of the evolution of the brain and nerve system, the history of the development of the lower animal organisms is most instructive, and the physiognomist, if he desires to be truly scientific, must go back to the earliest and lowest animals in the scale of creation and note the gradual development or evolution of the nerves and brain.

The first sense-organ was the outer skin-covering, long before any *bodily* organs had evolved, as in the case of the Zoöphites, Infusoria, Corallines, and Polypi, and other low forms of animal life. The bodies of these creatures are composed of a hollow globe or tube, with an opening at one end. Their entire construction consists only of an inner and an outer skin, with a row of cells between. All knowledge of the outer world comes to these creatures entirely through the sense of touch or feeling, and the outer skin-covering is their only sense-organ, therefore their only *mental organ*. It is necessary before we proceed that this expression should be explained. All mental power is based on sensation, and sensation is therefore the *origin* of thought. We have more senses than five, as I think I have proven in the preceding pages; but these five even are dependent upon their ability to receive sensations. Let the optic nerve become paralyzed and no impression of material objects is received by the brain.

The sense of touch, which was the first sense-organ of the mind, is, in the human organism, the most diffused sense, as it extends over the entire body, and its use is to man what it was in the lowest animal—a means of self-protection; for "without touch," says Taine, "nothing could exist." Haeckel, in his "Evolution of Man," tells us how the sense-organs, such as those of sight, hearing, taste, and smell came to be more acute than other senses. He remarks:—

> Later on in evolution this outer skin, which had become especially sensitive, gradually withdrew into the shelter of the interior of the body, and there laid the first foundation of a central nervous organ. As differentiation advanced the distance and distinction between the external skin-covering and the central nervous system detached from this became continually greater, and finally the two were permanently connected by the conductive peripheric nerves.*

In corroboration of the statement that the mind, or sensation (which is one and the same thing), had its origin in the outer skin-covering of the earliest animal organisms, I may mention one law of scientific physiognomy. It is stated thus: "Texture of the skin is significant of mental quality." We find by observation that the finer the skin or hair of animals, the greater their degree of sensation and intelligence. Compare, for example, the coat of the stupid, brutal bear, with that of the dog, the horse, and deer, and we shall see that fineness of texture is indicative of sensitiveness of the nervous system, and therefore of mental power, all along the line of mental development. When we wish to discern the quality of mental power in the human being, we must look to the fineness of the skin and hair and brightness of the eye, as well as to the fineness and thinness of the finger-nails.

The brightness of the eye is caused by two things: In the first place, a fine, thin skin will give a corresponding bright sclerotic and retina to the eye. A bright eye is never seen in combination with a very coarse, thick skin. The second cause of brightness of the eye is occasioned by the quality and expansion of the optic nerve. Where the skin is fine and thin the nerves of sense will be correspondingly of high quality and activity, and this in connection with the thin covering of the eye gives the brightness and vivacity which are observed in the mentally-gifted person, but which is absent in the dull and stupid.

Compare the eye of the hog with that of the deer or dog; the eye of a Spencer with that of Daniel Lambert, the celebrated fat man, and you will have proof of this statement. When any doubt exists as to the character or interpretation of appearances, an "interrogation of Nature" will give us all the proof required, and nowhere is evidence more plentiful and convincing than in our animal ancestors. The following is from the pen of Mr. Haeckel, and I quote it as throwing light on the law given above, viz., that texture of the skin is indicative of quality. Mr. Haeckel observes:—

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* Evolution of Man, Ernst Haeckel, vol. ii, p. 196.

> Let us turn aside from these very interesting features in evolution and examine the development of the later human skin-covering, with its hairs, sweat-glands, etc. Physiologically, this outer covering plays a double part. The skin, in the first place, forms the general protective covering which covers the whole surface of the body, and protects all other parts. As such it, at the same time, affects a certain change of matter between the body and the surrounding atmosphere, viz., perspiration or skin-breathing. In the first place, the skin is the oldest and primitive sense-organ, the organ of touch which affects the sensation of the surrounding temperature and of the pressure and resistance of bodies with which it comes in contact. Those organs of our bodies which discharge the highest and most perfect functions of animal life, those of sensation, volition, thought—the organs of the Psyche—or mental life, arise from the external skin-covering.*

Now that I have laid before you the testimony of one of the most eminent scientists in the world as to the origin of mind, and as the comprehension of this origin is essential to our knowledge of physiognomy, I will pass on to other features of the brain and nervous system, considering them as one system, differing only in their modes of action by reason of their differences of locality.

The law in regard to the identification of the nature of a function is formulated thus: "Similarity of structure shows similarity of function." Now, brain-substance and nerve-substance are exactly alike, and show no difference of structure under the microscope, therefore we must conclude that their purpose is a common one. The office of the nerves is to receive and convey sensations to the brain, where they are received and in some way, now unknown, manufactured into intelligence or consciousness. Nerves are the instruments which convey the knowledge of what is transpiring in the several organs of the body, and in the organs of sense, to the brain; this is their portion of the labor of the mind.

The part of the labor performed by the brain is, as before stated, the making of these feelings and sensations into consciousness; two acts of one system which are essential to its perfect operation, viz., sensation or feeling, and thought or intelligence. The brain acts as a receiving and recording station; the body with its various organs being the manufactory, so to say, where nearly all mental efforts are created by the action of the several organs and functions of the body. These efforts, which we denominate mechanical, artistic, domestic, etc., are performed, as I have shown, by the muscles, the bones, the nerves, the glands, etc., and by the vegetative faculties and functions. The signs for the predominance of the brain and nervous system are a pyriform or pear-shaped face, relatively large head, especially high above the ears, broad and full forehead, bright eyes, relatively small nose, small and thin hands and feet, and thin nails, thin nostrils and lips, small bones and muscles, slim neck, and small abdomen, with quick motions and rapidity of speech. Persons of this formation are earnest, excitable, acute, delicate, spirituelle and sensitive in feeling, high-strung, sparkling and bright, and the emotions, such as love, pity, fear, and imagination, are very easily excited. They also suffer and enjoy intensely. The faculty of reason is dominant, and the capacity for mathematical labor is in many cases of the highest.

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* Evolution of Man, vol. ii, p. 199

The brain is a soft, pulpy mass, and is composed of "sixty per cent. of carbon, ten per cent. of hydrogen, two per cent. of nitrogen, and nine-tenths of one per cent. of phosphorus." This exhibit of the elements of brain-matter shows that brain without a good share of bone in combination is a curse instead of a blessing. Carbon is the element which prevails most extensively in the vegetative system, and in the brain we find sixty per cent. of the same material. I have shown that where there is a good bony system lime in its several forms enters largely into its composition. Not only does it enter into the solid structure of the bone, but it is also found in a fluid state in the juices and tissues of the body. Now, if the blood is heavily charged with lime, it will be carried to the brain in larger quantities than where there is less of this element in combination. This explains why bony men have more solid, substantial, and practical intellects than those with a larger brain system and smaller bones. Those with the brain system predominating over all others are opinionated, changeable, and approbative, sometimes vain, almost always pure-minded, and, if of fine quality, desirous of the good of others; but where the other systems of the body are in good proportion the most happy results follow. Such a one was Washington. In him all the five organ systems were harmoniously blended, and all were of high quality. There can be a large development of any given system with poor quality. Size *alone*, as I shall show, is not the measure of power; but *size* and *quality* combined, as in Washington, give the most eminent talent and ability.

It will occur to all thoughtful persons that an excess of the brain system, like an excess of any other system, is a source of weakness and disease, and that as a perfected brain is the highest gift of Nature it follows that it should have the most intelligent care and treatment in order to equalize the other systems and bring them into harmonious proportions and development. Now rest, sleep, and abstinence from excitement and luxurious living will be essential in the first place. This treatment would induce a desire for a larger quantity of wholesome nutriment. Sufficient exercise in a pure atmosphere would increase the thoracic system and digestion. This would tend directly to a better development of the abdominal powers. Thus equilibrium or balance would be established, and an otherwise short and painful existence might be prolonged into an enjoyable and useful one.

The diseases to which those are liable who possess a disproportioned brain system are the following: Dyspepsia, pulmonary consumption, melancholy, paralysis, insomnia or sleeplessness, softening of the brain, headache, dizziness, insanity and general debility. These can be in all instances averted by hygienic measures, intelligently and persistently employed. There are, in the broad pharmacopœia of Nature, remedies for all the ills that the ignorance or willfulness of humanity inflicts upon its offspring.

The best and most practical method of improving the race—of regenerating humanity—is to understand the human mind and body, and then by wise and judicious selections of partners in marriage rebuild the race on scientific principles. Without a knowledge of the *face* and *body* this cannot be accomplished; hence the study of the subject before us is the first step in this direction. The next step is an application of its laws and principles.

One of the best evidences of a developed race is found in its manifestation of a high grade of reasoning, logical and mathematical powers. The unperfected races of the world, among whom I may mention the South Sea Islanders, the Esquimaux, and many African tribes, have so little ability in this direction as not to be able to calculate anything beyond the number of their fingers and toes. I think that man's superiority over the brute creation is more marked in this respect than in the matter of simple reason, which attribute many deny to the animal kingdom, although the power of reasoning to a large extent is proved by modern naturalists to hold a place in the mentality of the higher races of animals. The faculties of reason, causality, and comparison endow man with the gift of abstract mathematical ratiocination. In this he is perhaps more distinguished from the brutes than in any other manner, with the exception of the faculty of speech; although this is possessed by the parrot, but in this instance speech proceeds from a suitable formation of the vocal organs and is not accompanied with a corresponding degree of sense and observation.

This might serve as a lesson to those persons who ascribe to the human race "divinity," and to the lower animals none. When we find the lower animals endowed with a fine degree of reason, as in the horse, dog, and elephant; and some mathematical ability or sense, as in these same creatures and in "learned pigs," who are taught to count and reckon; when we find human speech in the parrot, I think the self-love and vainglory of man may as well give way, and allow to these, our "blood-relations," as Haeckel terms them, a fair share of divinity. We ought to be thankful to the Creator, who, in His wisdom, has chosen these humble instruments to serve as a means of teaching us whence we sprung and from whom we originated.

The brain system is the highest and last in the progressive development of the human race. Many of our most brilliant thinkers have possessed this system. Many, not having a due proportion of the other systems, have died young. This conformation large, in combination with the bony and vegetative systems harmoniously blended, has produced many powerful intellects. Samuel Johnson, Arkwright, Gibbon, Dumas, Buckle, Hume, Benjamin Franklin, William Penn, Handel, and many others were thus endowed, and were noted for their reason and their intense mental application.

CHAPTER IV.

THE SUB-BASIC PRINCIPLES OF PHYSIOGNOMY.

FORM AND SIZE.

WHETHER we accept the doctrine of evolution or not, we must, with the vast array of evidence in organized life before us, admit that there is a singular unity of action influencing the methods of Nature. An ordinary observer will find that certain forms in the animal kingdom exhibit similar traits when present in the human family. The same general laws as to form, size, color, texture, proportion, and faculties are common to both man and the brute creation. A study of the various conformations, colors, and textures of the several species of animals, both wild and domestic, together with the birds, which geology shows preceded the animal kingdom in the scheme of creation, will assist very materially in the knowledge and proofs of scientific and practical physiognomy.

First, as to Form and Size. Consider the hippopotamus,—bulky, unwieldy, slow, with large abdomen, small brain, thick hide, wanting in sensitiveness, and useless for any practical purpose. To which formation of the human family does this animal correspond? If you have given attention to the preceding pages you will recognize at once all the general characteristics of the Vegetative Form.

Examine closely the stag, made for mountain climbing. Behold his length of limb, leanness, activity, and form, the brightness of his eye, his ambition, desire for scaling the greatest heights, and his great breadth of chest—the broadest part of his body. He is here, there, and everywhere in a moment; does not dwell long at one place or pursuit. His lungs and heart must be well developed to give the power for such activity. This form is the counterpart of the thoracic in the human organism.

Let us pursue this system of physiognomy still further. In the animal world, whenever we see creatures endowed with the disposition for great destruction we naturally look for a corresponding amount of strength. In this grade of development strength and destruction are synonymous. If you were to examine a lion, tiger, or panther, you would find them characterized by strong, compact muscles; dark, hairy coat; dark or yellow eyes, with rapid motions, intense passions, and great courage. This class of animals represents the muscular build in man. Persons of this form exhibit great strength, capacity for destruction, and large amativeness. They are also social, domestic, emotional, and commercial, the commercial faculty corresponding to the preying and getting instinct in the animals of the same form.

As I have previously shown that the most reliable, moral, tractable, and naturally intelligent of the human species are found where the bony system is predominant, so in the animal kingdom you will find the corresponding faculties in those domestic animals —the horse, the cow, the ox, the camel, and dog—who render to mankind faithful, gentle, and intelligent service. The distinguishing marks as to color, form, and texture are relatively the same as in the bony system predominant in man. The prominent points are square bones, large joints, and projecting eye-bones, rather fine hair, variety of colors, herbivorous diet (although the dog, like man, lives on a mixed diet). The horse and dog are particularly receptive. The projecting bones over the eyes resemble the development of the practical or mechanical faculties in man. Width between the eyes, in either dog, horse, or man, is always indicative of a broad intelligence. It shows the faculty of Form to be large, and also gives breadth to *all* the functions and faculties of the mind; for physiognomy, well understood, reads the body as well as the face. It takes cognizance of the color of the hair, skin, and eyes; it observes the walk, the voice, gestures, and movements. All are indices of character. To a practiced ear the intonation of a single sentence will reveal very much to the listener. Everything which one does, no matter how trifling, is highly significant of character; and habits of observation and analysis should be formed in youth, and the reason why traits are combined as we find them should be given by parents and teachers. I feel assured that, after a careful reading of these thoughts, any parent will be competent to direct aright the dawning perceptions of his child in physiognomy. It is the *duty* of all parents to throw around their children such protection as the knowledge of the laws of Nature affords. It will prevent the erroneous conceptions of character to which the present lamentable ignorance of the laws of physiognomy leads. The many physiognomical errors current will be rectified, and the human family will be given a compass which will keep it clear of many shoals and quicksands which are found on the journey of life.

It will be observed by these comparisons that, in deciding upon the character of an individual, no *one single* circumstance or appearance can be considered decisive and conclusive. Neither form, size, color, quality, nor proportion alone is indicative of the *entire* character. Each of these conditions has its influence and weight in molding, as well as in deciding, power, disposition, and talent.

In addition to all these conditions, one most important factor is good health, or, in other words, *a normal development of all the physical organs and a normal action of all the functions* of the entire organism.

In discussing the sub-basic principles of this science, I shall take up each of these phenomena, and investigate them in the order which seems best adapted to their right comprehension, viz., as follows: Size, Quality, Form, Color, Proportion, Health, and Compensation.

SIZE OF THE HEAD.

This is a subject so little understood that I feel compelled to correct some errors in regard to it which have come to be accepted as truths. The phrenological law that "size of the head is the measure of power, all else being equal," has been accepted by the masses to mean that a large head is proof of superior intellect. Nothing can be farther from the truth, for I shall show—and, I believe, upon competent authority—that the largest heads on record have belonged to imbecile, idiotic, diseased, or commonplace characters.

A large head is no more an indication of superior intelligence than is a large face or a large body; and here, again, let it be noted that the largest faces and bodies, without exception, have belonged to either stupid or commonplace persons. There have been a few men in all ages noted for the size of their heads who have been equally noted for their mental capacities, but their mentality was not dependent upon the size of brain alone, but upon the *inherited quality* of both *brain and body*, and, more than all, upon their *symmetrical proportions* and great good health. Such a one was Thomas H. Benton, for many years a member of the United States Senate. (See Fig. 8.)

O. S. Fowler, one of the most celebrated phrenologists, offers testimony in the same direction when he observes:—

> Stuart's portraits of revolutionary heroes are said to represent them with large, portly, strongly marked, well-proportioned, and giant bodies, but with only *average heads*, and are probably *true* to *Nature*. I have found very smart men in all departments of human life with only average-sized heads. Thomas H. Benton's *was less than average*, but his *capacity of chest* was *most extraordinary*,—in fact, rarely equalled. All three temperaments were immense in him and well proportioned, yet his head measured less than twenty-two inches in circumference.*

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* Human Science, O. S. Fowler, p. 276.

Among men most celebrated for great size of body and face in ancient times was Vitellius, Roman emperor and gormand. Here was body, brain, and face of enormous proportions, but was there in this instance corresponding mental power? History fails to record anything that would prove capacity of any part of this person's organism except the stomach and digestive apparatus. In modern times Daniel Lambert has headed the list of great men, —those famous for size and for nothing else. Intellectually he was not gifted beyond the average man, having occupied the position of keeper in an English prison. His weight was seven hundred and thirty-seven pounds. His head was large and his face also. Another noted "great" man was Edward Bright, a miller, of Malden, England, who, at the age of thirty years, weighed six hundred and sixteen pounds. He also had a large head and face, while his intellect was only ordinary. Another large man, James Mansfield, also an Englishman, died at the age of eighty years, weighing four hundred and sixty-two pounds. He was a butcher by trade, and his head and face were large. Here we have the record of three of the largest men known to history, and we find in them only the most ordinary and commonplace intellectual development and power.

Now let us examine the evidence in the matter of both large and heavy *brains*, and thus discover, if possible, the kind of intellect exhibited by these phenomena. The opinion of the most eminent writers on mind—of physicians to the insane, and of anatomists—will be adduced, and my readers will then be able to see upon what ground mere size of the brain as a measure of power is based.

Observers, from Aristotle down to the present time, have given their views as to the size of the head, and in most cases their opinions and evidence point to small or average-sized heads as the most intellectual. Lavater says that Aristotle holds the smallest heads to be the wisest,* while Esquirol, the French anatomist, states that *no size or form* of head or brain is incident to idiocy or talent.

Dr. H. C. Bastian, an anatomist of eminent talent, observes:

> It seems perfectly plain from the facts recorded that there is no necessary or invariable relation between the degree of intelligence of human beings and the mere size or weight of their brains. We have seen that some demented persons may have very large brains, and, again, that in certain very ordinary members of society, suffering neither from disease nor from congenital defect, the brain may be decidedly large and heavy.†

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* Lavater's Essays, p. 266.

† The Brain an Organ of the Mind, H. Carlton Bastian, pp. 364, 370, 371. London.

Elsewhere he remarks:—

> Idiocy is not therefore necessarily associated with a very small size of brain.

Prof. Alexander Bain tells us that "occasionally a stupid man has a larger brain than a clever man."* It has often been stated, in medical and phrenological journals, that Cuvier's brain was the largest and heaviest ever observed. This is entirely erroneous. The largest on record is that of an insane negro, who died at the Richmond (Virginia) Insane Asylum. Dr. Barksdale states that his brain weighed seventy ounces. (See report of April, 1882.†) Dr. James Morris gives an account of the next largest brain in the world; it belonged to a thieving, drunken fellow who could neither read nor write; his brain exceeded sixty-seven ounces in weight. Both these brains are heavier than *those of any intellectual person on record.* Cuvier's brain-weight, so often quoted, was sixty-four and five-tenths ounces. Dr. Bucknill states an instance "of a male imbecile, thirty-seven years of age, whose brain weighed the same as Cuvier's, the greatest of naturalists;"‡ whilst the brain of Agassiz, who ranks next to Cuvier in science, weighed only fifty-three and three-tenths ounces. Esquirol instances a foolish monomaniac whose head measured in circumference twenty-six inches and thirty-seven hundredths; also, of an idiot whose head measured in circumference thirty-three inches and sixty-six hundredths; another idiot whose head was twenty-two inches and forty-four hundredths in circumference.§

Dr. Langden Down states that he dissected the brain of an idiot that weighed fifty-nine and one-half ounces.‖ Dr. Thurman declares that the heaviest brain weighed by him was that of an uneducated butcher, who was just able to read, and who died suddenly of epilepsy, combined with mania.¶ Moses Parchappe says the largest brain-weight observed by him was that of an epileptic or insane man, whose brain weighed sixty-one and three-tenths ounces. Dr. Skae mentions an insane epileptic woman, whose brain weighed the extraordinary amount of sixty-one and one-half ounces.** Now, when we reflect that the average weight of the adult male brain is said to be forty ounces (according to the climate in which he lives), while the female brain averages four to five ounces less, what we are to make of the phrenological law, that "Size is the measure of power, all else being equal," it is difficult to say. We find that the record is against this proposition, inasmuch as the greatest size seems always to be attended with abnormal physiological structure, and either idiotic or commonplace quality of brain. We know that Daniel Webster had a twenty-three and three-quarter inch head, and some other famous men had heads varying all the way from twenty-two to twenty-four inches in circumference, but in all instances where these heads have been accompanied with unusual talent the *inherited quality* was of a high order, and the physiological development was also most uncommonly strong; and, acting normally, a large brain must have the assistance of a large and fine visceral organization, together with *high quality*, to make it effective. A large brain is no more an indicator of talent or genius than is a large face or body. Large features, if accompanied by fine quality of skin and hair, denote a powerful intellect if great good health be present. Lavater tells us that "a head too bulky almost always indicates gross stupidity; too small, it is a sign of weakness and insignificance."

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* Mind and Body, Alexander Bain, M.D., p. 19.
† British Medical Journal, Oct. 26, 1872.
‡ The Brain an Organ of the Mind, H. Carlton Bastian, p. 67.
§ Esquirol, p. 375.
‖ The Brain an Organ of the Mind, p. 364.
¶ *Ibid.*, p. 366.
** *Ibid.*, p. 376.

Let us now investigate some characters whose great intellects have been exhibited by small heads, and see if the traits disclosed will not bear fair comparison with the largest-brained men on record. All naturalists whose observations lead them to study animal organisms comprehend well the fact, that *quality*, not size, is the prime indicator of mental ability. Charles Darwin observes that

> No one supposes that the intellect of any two animals or of any two men can be accurately gauged by the cubic contents of their skulls. It is certain that there may be extraordinary *mental activity* with an extremely *small absolute mass of nervous matter*. Thus, the wonderfully diversified instincts, mental powers, and affections of ants are generally known, yet their cerebral ganglia are not so large as the quarter of a small pin's head. Under this latter point of view, the brain of an ant is one of the most marvellous atoms of matter in the world, perhaps more marvellous than the brain of a man.*

As size of brain merely is not a measure of power, neither can we consider *form* or shape an absolute indication of mental power or of racial classification in man. Those persons who have imbibed the notion that a very high and full forehead is evidence of superior mental power are often startled to find very commonplace or inferior mentality accompanying such appearance. Dr. Livingstone enlightens us on this point in the following remarks. He observes:—

> There is no proper race-form of the cranium. The same measures of skull, the same types, whether of a classified purity and beauty, or of savage

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* Descent of Man, Charles Darwin, p. 189.

degradation, appear in individuals of all races. Tiedman has met with Germans whose skulls bore all the characteristics of the negro races, and an inhabitant of Nukihawa, according to Silesias and Blumenbach, agreed exactly in his proportions with the Apollo Belvidere.*

He observes, further, that the "Kaffirs are five feet eight inches high, with large heads; foreheads high and well developed."† Yet, as all students of ethnology know, these people are not one whit more intelligent than the North American Indians.

In analyzing and in deciding character, *form* is a safer guide than size, but here also *quality* must be regarded first, and I have no doubt that the negro Apollo mentioned by Blumenbach lacked the fine thin skin, fine hair, and brightness of the eye which characterized the ancient Greek, and which are the proofs of keenness of apprehension wherever found.

Among the most celebrated statesmen of modern times, Prince Talleyrand, of France, takes high rank, not only for his learning, which was comprehensive, but for his native talent, subtlety, and profundity he was considered the ablest man of his times. Of him, Mirabeau said:—

> For every combination he was prepared; one of the most subtle and powerful intellects of the age, he generally counselled measures marked by wise liberality and solid common sense.‡

Napoleon said of Talleyrand,§ "He is a dexterous fellow; he has seen through me;" and his biographer tells us, also:—

> To a great talent for business he added that perfect command over himself which is so advantageous to a diplomatist; his wit was caustic, ready and penetrating, a crowd of examples attesting his accomplishments in this respect; he preserved all the qualities of his great mind until the close of his life; he had always the welfare of his country at heart.

The following measurement of his head, made by Drs. Moreau, Coigny, Flaurens, and Micard, proves that large size does not always exist with and is not essential to great men of intellect.‖ They give the following:—

> General horizontal measurement, twenty inches and four lines (a line in French measure is the tenth of an inch); from the root of the nose to the occipital hole over along the top of the head, fourteen inches; from the hole in the ear to the other over veneration, eleven inches two lines.

Many of the most eminent persons known to history in every department of thought and genius have possessed small heads.

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* Races of the Old World, p. 471.
† *Ibid.*, p. 289.
‡ Universal Biography, Wm. N. Beeton. London.
§ Beeton's Dictionary of Biography.
‖ Phrenological Journal, vol. i, p. 1. Philadelphia.

Many of the world's greatest and most executive men had relatively small heads. Among them I may mention George Washington, John Marshall (who had a low forehead as well), Percy Bysshe Shelley. John Seldon, one of the most learned men of England, was six feet in height, and his head not large. Lord Byron's head was remarkably small, but beautifully formed, on the true artistic principle of the curve, being rounded in every direction. His hair laid in easy, graceful rings and waves.

The following very strong testimony on the subject of large *versus* small heads will go far to dispel the popular fallacy that large heads and talent and genius are necessarily associated. It goes to prove, on the contrary, that the largest heads are usually associated with criminal character when they are not the indication of feeble minds. The following from "Types of Mankind" is pertinent:—

> I have not hitherto exerted myself to obtain crania of the Anglo-Saxon race except in the instance of individuals who have been signalized by their crimes, and this number is too small to be of much importance in a generalization like the present. Yet, since these skulls have been procured without reference to their size, it is remarkable that five give an average of ninety-six cubic inches for the bulk of the brain; the smallest head measuring ninety-one and the largest one hundred and five cubic inches. It is necessary to observe, however, that they are all male crania; but, on the other hand, they pertained to the lowest class of society, and three of them died on the gallows for the crime of murder. The Anglo-Americans conform in all their characteristics to the parent stock. They possess in common with their English ancestors a more elongated head than the unmixed Germans. The few crania in my possession have without exception been derived from the lowest and least cultivated portion of the community,—malefactors, paupers, and lunatics. The largest brain has been ninety-seven cubic inches; the smallest eighty-two, and the mean of ninety accords with that of the collective Teutonic race. The sexes of the seven skulls are four male and three female. Dr. John Reid has also investigated this question on a large scale with great care.
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> After weighing two hundred and fifty-three brains of both sexes, and of various ages, he arrives at the conclusion that the encephalon arrives at its maximum size sooner than the other organs of the body; that its relative size when compared with the other organs, and to the entire body, is much greater in the child than in the adult; and that, although the average weight of the male brain is absolutely heavier than the female brain relative to the *whole body, yet the female brain is somewhat heavier* than the average *male brain.**

I shall offer still further corroborative evidence as to the association of size of brain with intelligence. The following from the pen of the distinguished writer Quatrefages is apropos. He observes thus:—

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*Types of Mankind, Knott & Glidden, p. 312.

> We shall certainly not be accused of exaggerated immaterialism if we estimate the action of the brain as we estimate the action of a *muscle.* Now, experience and observation daily testify that in the latter volume and form are not everything. *Functional energy* often more than compensates for what is wanting with respect to mass. Many other organic systems would furnish similar facts well known to all doctors and all physiologists. To assert the case is different with the brain would be, in the absence of all direct observation, a purely gratuitous hypothesis, and in the presence of Wagner's tables a contradiction of evidence. With his small brain Haussmann, the correspondent of the French Institute, has evidently surpassed in the matter of intelligence almost all his large-headed contemporaries.

In these tables a number of brain-weights of eminent men are given, in which Cuvier's stands as the heaviest, sixty-four and five-tenths ounces; while Hausmann's brain-weight stands at 43–24 ounces.

To continue the quotation:—

> But, on the other hand, beyond a certain stage of decrease, the muscular apparatus becomes incapable of effort. We can readily understand that it might be so with the brain also. It is, therefore, most natural to find that when it has fallen below a certain volume and weight it generally passes from weakness to impotence. Even M. de Bonald could not consider it strange that an intelligence when provided only with imperfect or almost useless organs should only manifest itself in an incomplete manner.
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> Thus, irrespective of all dogmatic or philosophic ideas, we are led to the conclusion that there is a certain relation between the development of the intelligence and the volume and weight of the brain. But at the same time we must allow that the material element, that which is appreciable to our senses, is not the only one which we must take into account, for behind it lies hidden an *unknown quantity*, an X, at present undetermined and only recognized by its effects.*

The unknown quantity here mentioned, I believe to be inherited *quality*, or energy. It can be determined by the laws of scientific physiognomy, which gives the signs for discovering its power.

To add to the weight of evidence in regard to the size of the head as an indication of intellect, I add the following from M. Broca, one of the most distinguished French writers. "No well-instructed person," says M. Broca, "would ever think of estimating the intelligence by measuring the encephalon." Corroborative evidence in this direction from the most competent observers could be largely added to, but want of space forbids.

The evidence here presented shows us that great size is not essential to greatness of intellect; that where great mental powers have co-existed with small heads some factor or factors other than size have assisted in producing or exhibiting such power.

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*The Human Species, A. de Quatrefages.

These factors are inherited quality and physiological development; the quality is produced either by the pre-natal conditions of the individual—by inheriting the natural quality of either father or mother—by a combination of qualities of both, which created that which was inherited—or by an endowment from some remote ancestor; for there are several ways to account for inherited quality of a high order, and when we do not find a counterpart in either parent we must look for the cause in some one of the other modes above stated.

I obtained the statement from Mr. Charles Herman, a hatter doing an extensive business in hats in San Francisco, that all his customers who wore extra-large sizes were very commonplace characters, with one or two exceptions. Those who wore the smallest hats were mostly men who were bright, smart, active persons, and none of them less than ordinary in intellect, but some of them among the brightest men of the country. He stated, furthermore, that his largest sizes went north to Alaska and British Columbia, while the smallest men's sizes were sent south to the native Californians, the descendents of the Spanish settlers.

The several instances previously quoted of the idiotic or commonplace characters of very large or heavy-brained persons correspond with the commonplace characters of these exceedingly heavy and large-bodied persons mentioned. Indeed, I think, all Nature unfolds to us this one fact, that all her finest and most valuable products are relatively small. The largest animals are the least intelligent and useful, as, for example, the whale and hippopotamus; the largest flower, the *Rafflesia arnoldi*, is as repulsive as it is monstrous, being fifteen pounds in weight and with a carrion-like odor. Our most useful domestic animals, the camel, the ox, the horse, and dog, are only of medium size as compared to the first mentioned, yet are both intelligent and useful; and no one, surely, will compare the largest flowers with the jasmine, rose, and pink.

I think we may safely set it down as a law of Nature that all over-sized individuals, whose brain, face, or body is unusually large in size, are relatively deficient in intellect and practical talents. Medium or small-sized heads and bodies are, as a rule, the most useful and intellectual, and in looking for true greatness neither the size of the head, face nor body will be the index. The law which scientific physiognomy formulates is stated thus: The "size of the nose, controlled by *quality*, is the measure of power; the shape of the nose denotes the kind of power." The nose is the central and most radical feature of the face, and indicates more of the body and mental qualities than any other feature.

The most perfected races possess the most developed noses, and the most developed and intellectual persons among the civilized races have the most developed noses, while all the savage races are lacking in the development of this feature, and exhibit by the peculiarities of the size and form of the nose the absence of all those traits of mind and body of which the nose, in its most developed state, is an indication.

Why may not all facial features and portions of features reveal the shape, form, and condition of internal organs? We know this to be so in regard to the size and shape of the nostrils in relation to the lungs, and if the nostrils can reveal internal conditions so also can the mouth, the eyes, the ears, and every other feature of the face as well. I will say, *en passant*, that quality is shown by brightness of the eye and fineness of the skin and hair. The subject of Quality will be treated at length in its proper order. Where the nose is long, high, and broad, the stomach, heart, and lungs are much superior in strength to those associated with a nose which is short, flat, and narrow. A comparison of the noses and bodies of the Germans and English, for example, with the noses and bodies of the native Australian will illustrate this point. In some savage races, and in one species of the ape family (*Semnopithecus nascius*), we find long noses, but they do not possess a form that indicates intelligence, and their bodies do not exhibit the *quality* essential to mental vigor.

It is most surprising that, while physicians and writers on physiology have long understood the value of the tongue and lips as indicators of healthful and diseased conditions, they seem to have utterly ignored the significance of the *nose* as a revelator of internal conditions and functions. Of course, they comprehend the fact that the nostrils must be in accord with the size and vigor of the lungs, and if large nostrils reveal the size of the lungs they must disclose the activity of the heart, as these two organs are correlated and mutually condition each other. All observers may prove for themselves, with slight trouble, these statements. All persons who have narrow or small nostrils will also exhibit a flat, narrow chest; those with large, round nostrils will disclose a high, wide, full chest. Now, if *one part of a feature of the face disclose the shape of a certain part of the body*, together with its strength or functional activity, is it not logical and reasonable to infer that *every part of every feature of the face* will disclose the form and functional activity of *other* parts of the organism? And if the body and mind are one, acting as a unit, then, by the same method of reasoning, why is not the action of the mind, its strength, weakness, and direction, also indicated by the form, size, and color of certain features of the face? I think that all candid and observant readers will find ample proof of all these ideas both in the theoretical and practical parts of this volume, but, above all, will the verification of these statements be found most conclusive in Nature by comparing the faces and forms of individuals with their mental labors and dispositions as exhibited in their daily life. There is no reason why mental and physical science should not be demonstrated as conclusively as any other department of natural science. Those who talk of its "complexity" should realize the fact that all other departments of natural history are complex, yet have been pretty well explained, and that every step in the knowledge of plants and animals has thrown new light on this very complexity, which, it is claimed, should deter man from even attempting to simplify. The tangled knot of the warp and woof of life and mind is gradually loosening under the innumerable discoveries of the microscope in the hands of legions of valiant soldiers which Science has summoned to do her bidding, and if man is really what he has so long flattered himself, viz., the master of the universe, let him earn and deserve the title by virtue of his knowledge of its secrets concerning himself.

Although the size of the nose is a very decisive sign of ability, yet several other things must be taken into account in getting at the entire mentality, disposition, and general and particular powers of the individual. After size is noted, quality and form must be regarded; then the proportion both of the features and body. But, in order to recognize powerful character in an individual, we must see that the nose stands high above the plane of the face, the nostrils broad, the eye relatively large and bright, the mouth also large, the chin of proportionate breadth and length, the eyes set well under a rather projecting brow (an eye that is on a level with the plane of the brow discloses great stupidity), the cheeks well filled (not too fat), a forehead broad across its upper part; and, when to this is added fine skin and fine hair, true greatness of some sort is indicated. The kind of greatness depends upon the shape of the nose. If it be a literary nose, then the possessor will excel in a literary direction; if the nose be architectural, that power will be exhibited; an artistic or dramatic nose will decide the talent and power of the individual in that department. To make all this effective good health is most important, for without it the individual would be like a powerful steam-engine without steam,—an inert, helpless machine.

QUALITY.

In determining the quality or mental power of an individual, the texture of the skin and hair is to be considered first, as these indicate quite as much as the form, and really determine its power and activity. If the skin be fine, clear, smooth, and thin, a high grade of mental activity or sensitiveness of the nervous system may be inferred. As the brain-substance, in the form of nerves, is spread all over the surface of the skin, the thinner and finer it is, the greater is the amount of sensation experienced, and, as Nature is harmonious, all the external appearances will be found to harmonize; hence, the hair will agree with the skin in quality, as well as with the finger-nails. The latter will be found smooth, fine, and thin in combination with a skin of like qualities.

The history of the evolution of man teaches us that the nervous system was evolved from the outer skin-covering in primitive animals millions of years before man came upon earth. This very significant fact shows us *how* the skin is an indicator of nervous and brain quality. It will be found, upon investigation, that this way of deciding the *quality* of mental power is infallible. The peculiarities of the formation of the face must tell the rest. The same law obtains in the animal world. A fine, soft coat on any animal proves its superior intelligence to those who possess coarse, shaggy hair. The exterior will always be found to agree with the interior in quality and form; and, after we learn the indications, it will be astonishing how simple it will seem to read character correctly, and we shall wonder why we never saw these things before nor fathomed their meanings.

The brightness of the eye is still another exponent of the quality of brain-power. An eye that is dull naturally, and moving slowly, shows dullness and stupidity; while bright eyes, with a quick and animated motion, show that the sensations are keen or the mental powers clear and active. There is much in regard to the eye which cannot be written. Words fail to describe adequately different degrees of brightness and expressions. The reader must investigate for himself, and commence a course of generalizing and classification on his own account.

Quality is the determining power all through Nature—not *size*. If one wishes a fine flower, one does not pluck a sunflower. It is large,—true; but it is also coarse in look and devoid of fragrance. So one selects a smaller and more-developed flower. This development is shown in the same way by which a brain or an ear of high quality is known—by the number of its convolutions. A fine rose or pink will illustrate this difference.

I have never met a genius nor a highly intelligent person with a coarse, thick skin, coarse hair, and dull eyes; but I have seen many coarse and commonplace persons possessed of these peculiarities. Of course there are many grades of quality disclosed by the texture of the skin and hair, while there are several kinds and degrees of brightness of the eyes which have each a different signification. One kind of brightness of the eye, as seen in the case of George Francis Train, for example, denotes a very active brain, along with the most sublime egotism. This sort of eye—the egotistic—is always uncommonly bright and glittering, and close observation is required by the student of physiognomy to discern these fine and subtle differences; and these differences are best learned from the *living subject.* No pen-painting can describe them adequately. In this science a reference to Nature is our court of last resort, yet good observers must note these minute shadings and record them for the benefit of beginners, whose attention may be first drawn to them in this way. There is a peculiar glitter of the eye caused by egotism and intense conceit, which is not to be confounded with that brightness and keenness which is indicative of great intelligence. After once noting this distinction, the student can scarcely mistake one for the other. Those persons whose skins are exceedingly fine, thin, and clear are excessively sensitive. This is caused by the nerves being nearer the outer world than is the case with those whose skins are coarser and thicker. Such people have *brains all over;* that is to say, that as brain and nerve-matter are identical in structure, those whose nerves lie the nearest to the outer world, and whose skin is fine and sensitive, naturally receive impressions and sensations more *acutely* than those not thus endowed. Hence, we find that the most impressible, intuitive, and sensitive are those who possess the finest quality of brain and nerves, and this quality is always disclosed by fine skin and hair and bright eyes, and is never found in those races and persons that have coarse, thick skins, coarse hair, and dull eyes. The senses of these finely organized persons, being highly susceptible to impressions, are hence capable of more enjoyment and suffering than others, and unless the nutritive powers are well developed they are liable to disease and early death; the excessive activity of the brain and nerves will cause them to wear out: yet some of our most gifted poets and artists, who have exhibited a fine and high quality of brain and nerves, have lived to advanced age, because the other systems of the body were equally developed, and assisted in sustaining the excessive activity of the brain and nerves.

The signs for quality are the same in the animal races as in the human; the coarsest-haired creatures, like the bear and hog, are the most brutal and stupid. These animals exhibit very dull eyes, nearly on a plane with the brow and cheek, and herein *form* denotes their low grade of intelligence, for we observe that the most shallow and superficial people among civilized races are those whose eyes project to nearly a level with the eyebrow. Among dogs and horses, who are conceded to be the most intelligent of animals, the differences of intelligence are easily found by an inspection of the degrees of coarseness and fineness of their coats and the brightness and position of their eyes. The bull-dog has neither the fineness of hair nor brightness and clearness of eye that distinguishes the spaniel; neither does he possess the latter's intelligence and aptitude for learning; his eyes protrude beyond the brow, while the eye of the spaniel is placed just as is the eye of the most observant of men, under a projecting bony brow. This appearance denotes in the dog just what it does in man, viz., observation, and this latter faculty enables the spaniel to be man's intelligent assistant while hunting,—an office which the bull-dog, with all his great size and strength, could not fill.

It is commonly understood that phrenologists decide character by feeling the protuberances on the head, and judging of one's proclivities by the elevations and depressions which the fingers discover; but if one will take the trouble to read what is written on the subject, he will find that phrenologists are physiognomists to a certain extent, and that they make free use of indications in the face, and it is from this source that their best delineations of character are made. The following from the pen of O. S. Fowler, one of the pioneers of phrenology in this country, is proof of this statement. He observes:—

> The countenance furnishes by far the most perfect means of communication. In both the amount of mental action expressed and in conveying its minutest shadings and phrases, it as far surpasses words as sunlight does starlight. Fine-grained persons can be read through and through by this means, because they communicate their utmost shadings of thought and emotion *more completely* by *facial* expression than by any other. I think natural and facial language the chief language of angels.*

I have not had much intercourse with "angels," but Swedenborg, who claims to have associated freely with them, states that they communicated with each other "by looking in each other's faces." "They comprehend," he says, "what is in the mind by merely looking at the face." Mr. Fowler shows that he uses the face for a knowledge of the changes which take place in the body. He observes:—

> All existing bodily states are also told *instantly* and *correctly* in the face. Two persons meeting after even a long separation instinctively admeasure any changes in both each other's *health* and *moral tone* and *all* their *other states* since *they parted.* If either has degenerated or

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* Human Science, O. S. Fowler, p. 1089.

> improved in health, the other instantly catches and estimates it correctly, and even wherein; or if either has grown better or worse morally, the other notes which, and its amount instantly, and admeasures it correctly. Nature compels everybody to tell everybody else who sees them whether they are growing better or worse, and just wherein, in any and in all respects. This *natural language* is a *great fact* and a *great volume of truth* all should learn to read.*

The above is the great phrenologist's testimonial to the value of the face as a revelator of character and of all sorts of characteristics. The "phrenology" is Mr. Fowler's, the italics mine. That he uses also the skin, hair, and eyes as indicators of quality the following from his pen will testify:—

> The skin is especially significant of the character of its possessor. The elephant and rhinoceros, coarse, powerful animals, have coarse, powerful skins, almost impenetrable; while man, with a finer-grained skin, has finer feelings; and woman, the most delicate, susceptible, and emotional being on earth, has the softest and most velvety skin, and, the finer the skin of any particular person is, the finer the feelings. In diagnosing a character the skin should be *one* of the *first things* observed; hair-texture comes next, and is like that of skin: when either is coarse or fine, harsh or soft, stiff or flexible, all else will correspond with it. The texture of brain, therefore, corresponds with that of the body, and any and every part of itself with every part of both.†

Mr. Fowler also tells us something of the complexion as an indicator of character. He remarks:—

> A good complexion, then, is something more than skin deep. Who disputes that the complexion indicates existing health states? Who does not know that these very states control the temper and morals? One may be justly proud of a good complexion and ashamed of a poor one, while all should try to keep or make theirs good by observing the health laws.‡

Of the signification of the eye, he states:—

> The expressions of the eye convey precise ideas of the existing and predominant states of the mentality and physiology. As long as the constitution remains unimpaired the eye is clear and bright, but becomes languid and soulless in proportion as the brain has been enfeebled. Wild, erratic persons have a half-crazed expression of eye, while calmness and benignancy, intelligence, purity, sweetness, love, sensuality, anger, and all the other mental affections express themselves quite as distinctly by the eye as by *voice* or any other mode, doubtless because the optic nerve is located in the midst of the basilar organs.§

After noting the various conditions of the complexion, skin, and hair, our "phrenologist" next observes the various meanings which the eye discloses, and this is all very encouraging, for it seems impossible to me to read human character without taking notice of every feature of the face, and indeed of all bodily features, together with the voice, the walk, the handwriting, handsh gestures, attitudes, and every motion of the muscles of the and body. And *all* this Mr. Fowler proves to us that *he* [illegible], but at the same time denominates his examinations "*phrenological.*" Now this is inconsistent, to say the least; still I do not wonder that phrenologists attempt to read the face and body, for in undertaking to read the mind the *entire* organism must be considered and be thoroughly analyzed before a correct description can be given; for, inasmuch as Mind inheres in the *entire organism*, we must study not only the size and form of the head and body, but also of the eyes, the nose, the mouth, the chin, the hands, the feet, the hair, and even the eyelashes and finger-nails; every separate feature and part of the body must come under the study of the examiner, if the most complete and comprehensive knowledge of character is desired. I believe that all phrenologists are more physiognomists than they are simple skull-feelers. Mr. Fowler shows us, at any rate, that he depends greatly upon physiognomy, yet states his regret that he has not a good systematized way of doing so, and hopes that some good "looker and thinker will bring out a system which shall be scientific." * I hereby call his attention to this system.

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* Human Science, O. S. Fowler, p 1134. † *Ibid.*, pp. 240, 241. ‡ *Ibid.*, p. 282. § *Ibid.*, p. 284.

The following extract from Mr. Fowler's work evidences yet again that he is a Physiognomico-Phrenologist. He observes:—

> Horses, oxen, sheep, owls, doves, snakes, and even frogs, also have their men and women cousins with their accompanying characters. These animal-resemblances are more easily seen than described, but *the voice, forms of mouth, nose, and chin, are the best bases for observation.*†

After all this, if I hear any one accuse Mr. Fowler of being a phrenologist I shall deny it, and defend him by bringing his own words forward for evidence. I shall later adduce more of this gentleman's ideas on physiognomy, and I believe we shall find them useful; for it is not to be supposed that an observing man like Mr. Fowler has been closely scrutinizing faces for forty or fifty years without knowing considerable about them, even if he has not, as he acknowledges, the originality to found a system upon the subject.

In looking for indices of character one should not pass unheeded the characteristics which the finger-nails disclose. Where they are fine and thin and of a pinkish shade, a normal condition of health and a fine degree of mental power will be indicated. The color denotes health, and the fineness and delicacy of the grain, or texture, is an exponent of a sensitive, nervous system, which under the law of harmony is bound to correspond with the keenness of the nervous system and brain. Coarse-grained, thick nails reveal to us a character more useful than ornamental. If the color is of a pink or reddish hue, then a normal degree of health is present; if the nails are of a bluish tint, irregular circulation will be denoted; if pale, then consumptive tendencies or exhaustion of the system are shown; where the nails bend over the ends of the fingers, we are led to infer consumptive, dyspeptic, or scrofulous tendencies. The nails point to moral and immoral states, as well as to artistic and mechanical abilities, but this branch of the subject will be discussed when we come to treat of the hand and fingers separately.

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* Human Science, p. 1136.

† *Ibid.*, p. 289.

In order to comprehend fully and in a scientific manner the meaning of the indications of character and signs in the face, one must know somewhat of the *origin* of *mind* as revealed to us by the history of the evolution or progressive growth of the human body. It is impossible, in a work of this sort, to give more than a slight description of the origin of the sign for mental power as disclosed by the texture of the skin, hair, and nails. Yet, slight as this must necessarily be, it is just to my readers and to the system which I bring forward, that a scientific basis should be shown for every sign, and most especially for one so important as is the sign for deciding the mental power of all created beings. The methods observed by naturalists to learn the origin of man's mental organs and powers are twofold; first, by following the course of the evolution or progressive growth and development of the lower animals, commencing with the lowest forms of animal and vegetable life; thence tracing the evolution of man through animal and human embryology. It is in this latter department that our most conclusive evidence is revealed. It was an assumption on the part of Aristotle, that the heart of the incubated chick was the first organ to develop. We now know that the chick, as well as all other vertebrate animals, develops in precisely the same way primarily as does man.

The quality observed in the skin, the hair, and in the brightness of the eyes is not only the index of mental quality, but also of the quality of all the physical organs and functions of the organism. This must necessarily be the case, for do we not find delicacy and sensitiveness of all the powers of body in the greyhound as compared to the bear, the hog, the hippopotamus, and the rhinoceros, just as we observe the difference of physical delicacy and sensitiveness between a North American Indian and the gifted and refined Florence Nightingale?

Lavater understood the value of the textures of the skin and hair as an exponent of character, for he remarks (quoting from Galen):—

> To discover whether the quality of the brain corresponds with the flesh we must examine the hair. When the hair is of the first quality and we would further distinguish whether it betokens goodness of understanding or imagination, we must pay attention to the laugh.*

The following from Aristotle is true to Nature, although he attached but one signification to it. I find more than one meaning in weak and strong hair. He observes:—

> Weak hair betokens fear, and strong hair courage. This observation is not only applicable to men, but to beasts. The most fearful of beasts are the deer, the hare, and the sheep, and the hair of these is weaker than that of other beasts. The lion and the wild boar, on the contrary, are the most courageous, which property is conspicuous in their extremely strong hair. The same also may be remarked of birds, for in general those among them which have coarse feathers are courageous, and those that have soft and weak feathers are fearful; quails and game-cocks, for example. This may be easily applied to man.†

FORM.

The physiognomists of all ages have understood the connection between form and character, and, to a certain extent, between form and function. Naturalists and scientists have given various rules for translating form into character, while artists, who deal with form as an art, with few and rare exceptions, have left no true rules upon which to base a correct estimate of human character. This is not to be wondered at, as highly imitative and imaginative minds are not adapted to the kind of observation, cool analysis and reason which is needed to reveal and expound principles of Nature; hence we must not expect any great light from artists on the subject of the *meanings* of form, although *form* is the basis of their profession. They only deal with form as an expression of beauty or ugliness, without regard to its scientific or *natural* meaning. Artists are not as high in the scale of development as are mechanics, inventors, or scientists; for artists are mainly in the muscular and brain systems, while the former classes are in the bony and brain systems, which is a higher combination than the artistic. It is true that we have had a few great artists who were great in other directions; Michael Angelo, for example, was a man capable of as great achievement in many other directions as in art. Goethe was almost as eminent in science as in poetry, yet the great majority of artists are mere surface-readers of form and do not need, perhaps, to know the science or laws governing form; but science will revolutionize painting and all arts, as it has every other department of human knowledge.

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* Lavater's Essays, p. 265.

† *Ibid.*, p. 206.

Every leaf, every tree, and each animal form reveals its character by its shape. Every part of each individual corroborates every other part, so that a skilled observer can learn considerable of one's mentality by the shape or form of the finger-nail even. Every bone of the body is in harmony with every other bone of the same body, and a physiognomist is quite able to tell what shaped chin or forehead is associated with a given nose, or *vice versâ.* This is not only comparative anatomy, but comparative physiognomy as well.

On this subject O. S. Fowler remarks:—

> Form thus obviously becomes the true basis for temperamental classification: shape is, as character. Then why should not the temperaments be named and described from those *forms* which accompany them and are conferred by them? They should.*

Mr. Fowler has an original way of using the term Temperament. This is the word which Hippocrates used to denote the *colors* of the human countenance and organism, but Mr. Fowler takes it bodily and applies it to a description of *form.*

We may set it down as a fixed principle of physiognomy that the form is one of the most potent factors in revealing and comprehending character. We shall find, if we observe and compare, that all round persons are creative, inventive, and original. This does not include the globose, vegetative people, but those of the round, muscular build. This class of persons are social, often domestic, musical, amative, sportive, mirthful, and commercial. They are also good dancers, enjoying motion, walking, and all athletic sports; while square-built persons are always found to be orderly, like the methodical arrangement of their bones, which are at right angles to each other. They are also precise, accurate, and punctual. Persons of this formation are naturally given to mechanical pursuits, and make good mechanics, such as carpenters, dress-fitters, scientists, etc., and in all trades and professions where method, punctuality, rule, law, and order are required, these square, bony people are found. Round people are more suave, politic, and polished than square-built ones. The latter are more direct, accurate, and reliable than the former as a class, yet *true* persons are found among the round-built; but, as a general rule, these two formations are as I have described them. It will be seen that straightness of bone points to straightness of character,—to integrity,—while straight muscles disclose more honorable character than crooked muscles. Persons with crooked eyes are not so truthful as where they are straight; that is to say, where the crookedness is congenital and not accidental.

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* Human Science, O. S. Fowler, p. 244.

A crooked, convex nose is not as indicative of honest character as is a straight one. Many merchants have this formation, and such persons will be found to be grasping, acquisitive, rapacious, and overbearing, and will exhibit all the traits of the bird of prey, whose beak discloses the same form.

Crooked-legged persons—those whose legs are crooked by the curving of the muscles—are naturally licentious. This form is not to be confounded with the "bow-legs," which are due to a weakness of the bones caused by supporting the body too early in infancy. A close observer can distinguish the difference. The first mentioned disclose legs which crook outwardly from the knee, while the bones of the bow-legged individual crook outwardly from the hip-joint. There is a very great difference in these two appearances, and each denotes wide differences of character.

Round or ovoid-shaped persons always possess a degree of *creative* ability of some sort, if only of a physical nature. Round-shaped animals and men exhibit large procreative powers. In the lowest races of round men and animals creative power is shown more by fecundity than by mental creation. The square or angular races are less fertile than the former, but possess character adapted to the observation and investigation of the laws and principles of Nature.

There is no doubt that the forms of the *interior* organs of all animal and human bodies are as individualized as are the features of the face and forms of the body, and most certainly correspond with the external configuration in size and shape, for the action of the interior organs produces the external contour. The shape of the fingers corresponds to that of the hand, and both these to the arm, the body, and the face. If as much time were spent upon learning this system of comparative anatomy as is put into useless accomplishments it would advance the reader immeasurably in the knowledge of character-reading.

The various forms of the nose (a feature most potent in disclosing character, both mental and physical) are very easily reduced to several general classes, and with little observation on the part of the student he will be enabled to place each nose in its own class, without regard to the pronounced individuality which each nose must necessarily exhibit. The same is true of the various sorts of mouths, and one can soon separate the criminal from the artistic mouth; the social, sympathetic, or oratorical from the secretive or gluttonous mouth.

The *basilar* or *primitive* shape of all forms, both vegetable and animal, is the ovoid or circular. The cellular tissue of vegetable life always presents this appearance under the microscope. The tissues of all animal and human organisms present in their primary organization precisely the same appearance as the tissues of the vegetable. The corpuscles of the blood are like the cells of vegetable life. The bones of the animal and human organisms are built upon the same form, and present, under the microscope, a cellular construction, just as we see in the corals and all other primitive and low animal organisms. The ovoid, or egg shape, then, is the uniform pattern of primitive creations; hence, it indicates creation, constructiveness. It is the same form which the planets assume in their course of formation, and there must be one universal law which assists in shaping the primitive germs of organic life, as well as the great bodies which revolve in celestial space. The round form of vegetable, animal, and human organisms is caused, doubtless, by the rotatory motion of our earth, for we know that no form or organism is angular or square in its primary state. If it assumes angles, as in the mineral formations, there has been first cellular crystallization, while the mineral was in an incandescent state; and no matter what shapes plants, trees, and animals eventually assume, the whole structure is built up by myriads of ovoid-shaped cells. The sap and juices of the tree and plant, like the blood of the animal body, are composed of minute cell-shaped forms, and are uniform in their shape, though not in size. The tissues also of both vegetable and animal bodies are cellular, and built up in the same uniform manner, as are all the other cells in Nature.

What is the interpretation of this universal and uniform method of growth? We find the answer in the contour of the highest being in creation, viz., in man. All persons of creative or constructive minds are round in form, and whatever works they produce, such as pictures, statuary, gestures, and positions, as in acting, and the use of the voice in oratory (for sound is of a curved shape in its passage through the atmosphere), are also rounding in form. And, in writing, this class of persons treat of subjects and principles which are based upon the ovoid, elliptical, or circular form, as in physics, geometry, etc. Thus we see that the possession of creative power is always known by rounding form of the body, the head, the nose, the eyes, the fingers, and limbs, and whenever in the human face we find one feature which presents a rounding appearance, be it the head, the ear, the nose, or lip, then that feature expresses more *creative energy* of a certain part of the mind than does a flat or depressed feature. A round ear is best adapted to the reception of tone or sound. A round nose is indicative of constructive power, either musical, dramatic, or literary (see section on "Noses"). A rounding upper lip reveals greater procreative ability and capacity than the flat, thin lip. A round, red, rolling under lip points to greater glandular action than one that is thin and pale, together with less ability for conversation and less taste for flavors, all of which are disclosed by a good-sized, round, red under lip. We may go on indefinitely, and apply this law to every feature of the face and every portion of the body, and we shall find in every instance that this circular form is an indication (in its final result and shape, as well as in its primitive cause) of constructive or creative power.

Another form which is used greatly by architects and artists is the arch. Its true *living meaning* I have never yet heard defined by either class. Wherever in Nature, whether in animate or inanimate objects we find this form, it illustrates two distinct inherent principles, viz., strength and beauty. The arch is observed in the numerous caves which are scattered over the world, in the natural bridges, one of which is found in the State of Virginia, in America, and is a really picturesque structure, fashioned by the hand of the Great Architect.

In the vegetable kingdom we have exhibitions of this form of architecture in the limbs of trees where they join the trunk and where the smaller limbs and twigs join branches. In the floral department we have ample evidence of the strength and beauty of the arch as we see it in its construction of the branches and blossoms of numerous plants. In the animal species we have the most positive evidence of its value and meaning. The humps of the camel and dromedary are great arches, and assist these creatures in carrying, without fatigue, enormous loads over the sandy wastes. They also assist in creating harmonious proportions in the outline of these animals, which without these projections would be very ugly in appearance. The beak of the bird of prey is another manifestation of strength and harmonious construction. A prominent convex beak is characteristic of the class of birds denominated "Raptores," or rapacious birds,—such as vultures, condors, eagles, falcons, hawks, kites, buzzards, owls, etc. This arched beak is an illustration of superior strength and power, and in all animals whenever we observe this peculiar formation we shall find in combination great strength of that particular part, and shall know that it is the sign or index of the entire character, for under the law of proportion and homogeneousness every part of an organism is adapted to every other part, and all indicate the ruling traits of the individual Apply the meaning of the arch to the human face and body, and we find that its meaning is precisely the same in the human that it is in all the lower forms of existence. The perpendicular or horizontal outline, wherever it is observed in an organism, reveals character different from all other forms. As crooked lines disclose crookedness of action, so straight lines, in their normal localities, whether in man or animal, denote straightness of action and upright conduct. Persons with straight bones and straight muscles are more reliable and possess more integrity than those with warped or curved bones and muscles. Straight eyes and mouths evince truthful proclivities, while crooked, slanting eyes ("*à la Chinois*"), and twisted mouths exhibit characteristics the reverse of the former. Observe the slant-eyed animals, the tiger, the panther, the fox, and the cat, and the habits and dispositions of these creatures coincide with their slanting organs of vision. They are deceptive, sly, treacherous, and cruel, and this is precisely like the character of those races and persons who exhibit the same formation. The Mongolian is an excellent example of this peculiarity of formation. The races of animals such as the dog, the horse, and the ox have straighter eyes and are more reliable and faithful than the former classes of animals.

These facts are patent to all, and easily verified in the animal or human families, as well as in the vegetable kingdom. *Form comes by design*, and is a reliable significator of character. It is only the indifference of man to these subjects that has caused the wide-spread ignorance of the inherent meaning of forms, as well as of colors in Nature. The lamentable absence of knowledge on the part of man in regard to himself causes one to coincide with Carlyle when he exclaimed: "I had no idea until late times what a bottomless fund of darkness there is in the human mind." The correct method to interpret form is to observe what characteristics and traits accompany certain forms, and the *form* will thereafter stand for the *character* found in combination therewith.

The arch, curve, circle, ovoid, square, and straight line are created by Nature, and each illustrates different grades and phases of character. We shall be more than blind if we remain ignorant of their meanings, their powers, and their capacities. There are other principles in Nature which serve to exemplify and illustrate character, and when found in combination with certain forms greatly modify their meanings. One of the most important principles in all Nature's domain, and most especially important to the human family, is Color. This topic will next be treated of, and here the student of physiognomy will have an opportunity to advance in the science.

COLOR.

The element of color which we behold spread broadcast throughout Nature is an inherent and constituent principle in mineral, vegetable, and animal life. Color is as potent a factor in creating as it is in expounding character, and indicates by its presence life, health, activity, and beauty. Its absence from vegetation denotes disease or death. In the human family similar appearances indicate like conditions. Color is a necessary and natural element of the human organism, and is a preservative of health and power, both mental and physical. Color is obtained from two sources, viz., from the mineral constituents of the earth upon which are grown our foods, and from the atmosphere and sunlight. Color is extracted from the earth by the roots of the plants and trees, and carried upward by the tubes which circulate the nourishment thus received in a fluid form through all their parts.

The *original* source of all color is mineral, whether it comes to us from the sun,—whose incandescent rays are thrown off from vaporous minerals in the form of white light (which by refraction is shown to be composed of the seven primary colors, viz., red, orange, blue, green, yellow, indigo, and violet),—or whether it is evolved from the earthy minerals upon which our foods are grown. The experiments made by means of the spectroscope teach us that there are twenty important elements in sunlight which are the origin of colors; sixteen of these are mineral, viz., sodium, calcium, barium, magnesium, iron, chromium, nickel, copper, zinc, stronium, cadmium, cobalt, manganese, aluminum, titanum, and rubidium. Each of these minerals has its own peculiar color, and it is by the colors given forth from the mineral that the scientist, aided by the spectrum analysis, is enabled to know which particular minerals are in any given atmosphere. The minerals which give forth a red light are not the same as those that emit a blue ray. Some rays are composed of three of these minerals, others have eleven, and others sixteen mineral constituents. *Color*, like sound, is brought to us by *vibrations* of the surrounding atmosphere, and the longer and shorter vibrations give us different-colored rays, just as longer and shorter vibrations of atmospheres bring to us higher and lower sounds, as heard in the musical scale, when some resonant object has been struck; the key-board of the piano or harp-strings, for example. The longest waves or vibrations produce heat only. The shorter and quicker rays give off a red color, and as they quicken and become shorter they emit orange, yellow, green, blue, indigo, and violet.

The sciences of sound and color are yet in their infancy, but as the greatest minds of the world are turned to their investigation, aided by the manifold scientific apparatus and instruments which this inventive age has brought forward, we may hope for great discoveries in these directions—discoveries which, like all those that have preceded them, will bring to us greater knowledge of the laws of God and Nature.

The color derived from the two sources mentioned, it will be observed, must naturally and inevitably permeate all Nature; hence, plants, animals, and man are all influenced and sustained by color in some form or other. The wonderfully variegated hues of the shells of marine animals excite our admiration; so, also, the iridescent hues of minerals and gems appeal to our sense of the harmony of color; the fields with their verdant vegetation, the foliage and flowers with their pencillings of delicate beauty, the clouds which float above our earth, shading from the roseate through all grades of color,—from azure, golden, opaline, and virescent to the beautiful, yet sombre, lavender, drab, gray, brown, and black,—the gorgeous dyes of the Aurora, the brilliant prismatic colors of the rainbow, the lustrous and variegated plumage of birds, and the myriad hues of insects delight and satisfy the eye of those whom Nature has endowed with the color-sense.

This universal endowment of color teaches us that it has a most important bearing upon *our lives*, and is worthy our earnest investigation. What is its use to the human family and what its method of action?

Its use primarily is to give health, vigor, tone, and beauty to the human organism and all natural objects; its secondary use is for the reproduction by man of the same principle and element in works of art, in pictures, and in the wide range of the industrial arts, as in dyeing, house-painting, etc. We all know that a green color of vegetation denotes life and health; that a yellow hue of the same indicates ripeness or decay. A plant that is sickly is pale or yellow; a human being with a pallid, colorless skin is not only sickly, but where this condition is natural or permanent he is not so useful to himself and the world as is the person with a brilliant-colored complexion, for the reason that the law before stated, viz., that an element or principle which is the best developed within the organism is the one which the individual can best express in external operations, applies with just as much force to Color as it does to Form.

This principle of the color-sense giving power to reproduce it externally in artistic efforts must have been understood by the great artists; for Winkleman tells us that "we read the coloring of Guido and Guercino in their countenances."* These painters were both distinguished for the brilliancy of the colors and tints in their paintings, and Winkleman being, like all truly great artists, something of a scientist as well as a philosopher, made this observation of their powers as he understood them. Those persons who pass much time in the open air, and particularly in *pure* air, have the most brilliant complexions, and are among the healthiest of people; hence, fresh, pure air is the best cosmetic. The high-flying birds and all birds who pass their time in pure atmospheres are more brilliantly colored than the marsh birds which never fly high nor seek the sunlight and the higher atmosphere. The color acquired by outdoor life gives vigor to the blood owing to the large quantity of oxygen and electricity inhaled from the air as the blood passes through the lungs; this purified blood is carried to all parts of the organism, and rebuilds all the tissues of the body upon a more healthful and sound basis than pale or colorless blood. Fishes have less color relatively than birds, beasts, or man. The reason is that they inhale less oxygen; and the deep-sea fishes have less color than those that live nearer the surface, where more air is inhaled. Bright-colored birds, we know, have a most developed color-sense, and bright-colored insects as well; for, as Mr. Darwin has shown us in his "Origin of Species":—

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* Lavater's Essays, p. 313.

> The species of shells which are confined to tropical and shallow seas are generally brighter colored than those confined to cold and deeper seas.*

Here we are met with the fact that heat produces color; and we shall find as we progress that color and heat are synonymous, and that heat, color, and activity are in close relationship. All the darker races of the world live in the most heated climes, and the darkest races have the most intense and violent passions and emotions; even among civilized races the darker are the more excitable and passionate. Compare the Italian and Spanish with the German, English, or Scotch, for example, and we shall comprehend the fact that color indicates character in man as well as in all lower developments, such as fishes, birds, insects, and beasts. Those in whom the coloring pigment is wanting are weaker than those who have a *normal* supply. We observe this quite often in young persons who are growing too fast, as well as in consumptives and anæmic people. In these classes enough color is not taken into the system by the food or by exercise in sunlight; hence, the skin fails to get a proper quantity. The pallor produced indicates enfeebled conditions of other parts of the organism.

Haeckel, in his "History of Creation," treating of the influence of color on animals, quotes the following from Darwin. He remarks:—

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* Origin of Species, Chas. Darwin, p. 138.

> Very frequently Albinos are more feebly developed, and consequently the whole structure of the body is more delicate and weak than in colored animals of the same species. The organs of the senses and nervous system are in like manner curiously affected when there is a deficiency of coloring pigment. The want of the usual coloring matter goes hand in hand with certain changes of the formation of other parts,—for example, of the muscular and osseous sytems,—consequently, of organic systems which are not at all intimately connected with the system of the outer skin.

He also says:—

> White cats with blue eyes are nearly always deaf. White horses are distinguished from colored horses by their liability to form sarcomatous tumors. In man, also, the degree of development of pigment in the outer skin greatly influences the susceptibility of the organism for certain diseases; so that, for instance, Europeans with a dark complexion and brown eyes become more easily acclimatized to tropical countries and are less subject to the diseases there prevalent—inflammation of the liver, yellow fever, etc.—than Europeans with white complexions, fair hair, and blue eyes.*

The Albinos of the human family are always deficient in the senses of sight and hearing; and very light-haired, light-eyed persons are generally predisposed to scrofulous and kidney complaints.

My experience has led me to observe that the color-sense may be imperfect where the hair and eyes are dark and the skin pallid or not clear. It is necessary that color should be *well defined* and *the skin clear* in the entire organism in order to exhibit the color-sense in its highest perfection. Persons who have the color-sense best developed are, without doubt, those who have inherited large, strong lungs. This enables them to inhale copious draughts of air which serve to oxygenate and thus color the blood. By this process the color of the skin and eyes is deepened, and thus the color-sense is enhanced. All of the great color artists, Reubens, Titian, Paul Verronese, Van Dyck, and Rembrandt, for example, were the inhabitants of countries where people live mainly in the open air; their ancestors had thus inherited and developed this fine color-sense, and as traits become aggregated by inheritance they are transmitted in an intensified form; and as deep-colored individuals have an ardent love of color, these artists were able to reproduce in their works the element of color which permeated their whole being. I venture to affirm that no great color-artist ever existed who was possessed of very fair hair, very light eyes, and a colorless or pallid, thick, muddy-looking skin.

Deep colors, as before stated, accompany strong passions, and in the animal kingdom this is well illustrated; for we know that love, jealousy, and revenge are all the more active with dark people. It is the same with dark or black animals; a black horse is more fiery in his disposition than a white one, and less teachable. You will always observe white or cream-colored horses employed in a circus as trick-horses on account of their superior intelligence and docility. Light persons and races are found to be more progressive than those of dark color. As their passions and emotions are not so intense they are more capable of improvement.

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* Origin of Species, Chas. Darwin, p. 26.

The local sign for color given by phrenology is "arching or height of the external portion of the eyebrow." This sign is, of course, more prominent in muscular persons than in bony ones, for the reason that muscle produces curves, while bones produce straight lines and angles. Then, too, muscular persons are more given to art than bony ones; and this sign, as shown in the face of Holbein, is the result of opening the eye wide for a number of years in order to take in wide expanses, and to observe the effect of artistic work. This sign is not *at all a sign* for *color*, but is one sign of the *artistic tendency*. The sign for color is not *local*, but is shown by *general color* of the *eyes*, the *hair*, and *complexion*. This is inherited when it is present in childhood. There are many persons who are color-blind. Albinos are entirely so; a larger percentage of males than females are destitute of the color-sense. Dr. Jay Jeffries, a recent writer, states that those who are color-blind, in a greater or less degree, are as one in every twenty-five males, while among females of all ages only one in seven thousand one hundred and nineteen are so! There are several reasons for this wide difference of the color-sense in the sexes; one is, that females are early taught to combine colors in dress and household appointments; another is that they work at many trades and professions which cultivate this sense. The use of tobacco does much to destroy this sense in man by altering the functional action of the glandular system and the circulation of the blood. The countenances of habitual smokers are pallid, blue, or ashen, thus indicating that the arterial circulation is vitiated. The kindergarten schools are doing a good work in respect to the training of boys, as well as girls, in teaching them in childhood the harmonies and differences of shades, tints, and colors. When we reflect that so many lives are dependent on the color-sense of an engineer on a railroad train, or the pilot of a steamboat, the necessity for the careful training of all boys in color is at once perceived. Abstinence from tobacco should be a well-grounded principle in every boy who desires to be a useful man, as this sense is not only preservative of his life and health, but enables him to protect the lives of those who may be intrusted to his care in many positions which require a knowledge of colors.

The origin of colors is readily traced, and as they play so important a part in our lives it is right we should have a clear comprehension of their use and origin. Color has a moral as well as an intellectual significance, which is explained in the chapter on the "Rationale of Signs and Functions." I think, however, that enough light has been thrown upon this subject in the preceding pages to convince my readers that if a high degree of health, usefulness, and activity is desired, an adequate quantity of sunlight and color must be had in order to bring about this result. We have found that a due admixture of color assists talent, art, industry, science, health, and longevity. Later on we shall discover that it has a direct bearing upon our moral nature, and can assist or impede moral effort according to the proportion which we have in our system. This will seem a singular statement to those who have been accustomed to regard morality as a sentiment merely, something which the brain or conscience has in charge; but if these persons reflect that it is only by the right use of the organs and members of the body and by their being in a normal or equilibrated condition that we are able to lead moral lives, they will at once perceive the importance of a proper degree of color in the organism, as well as a just proportion of bone, muscle, nerve, and brain. The regeneration of the race should commence by *right generation* and by attention to physical laws, for these laws are just as divine and just as binding upon us as are moral laws, and obedience to the former leads directly to the advancement of the latter. Observation and comparison of the colors of the several races of mankind reveal to us the fact that where a race or people retain one color of skin and eyes for generations, that race is relatively non-progressive. Races which have within their numbers many varieties of color,—where, for example, we find the black-, blue-, and gray- eyed people, as well as dark- and fair-haired and dark- and fair- skinned people,—we shall find a more original class. A mixture of colors always denotes capacity for improvement and progress. The Chinese are an example of a uniform-colored race. They have remained stationary in their habits and customs for ages. The Spanish among civilized people are of a nearly uniform color, and are not so progressive as are the Germans or English; neither have they as diverse talents, nor as much originality and independence.

In the animal kingdom the law of color is just as applicable as in the human family. All the non-progressive animals, such as the lion, the panther, the bear, and the zebra, have always remained the same in color and in character; they are untamable and intractable, while other animals that have a variety of colors, such as the elephant, the camel, the horse, the dog, and the ox, are more teachable, and can be very much improved in intelligence and beauty by scientific breeding. They are also more amiable and docile, less fierce, and more useful than the stationary-colored animals. In fact, all races that retain one color or form for ages are non-progressive and not as adaptable nor as amiable as those which possess a diversity of form and color.

THE LAW OF PROPORTION, OR HARMONIOUS DEVELOPMENT.

A correct knowledge of the laws of proportion governing the human physiognomy and organism will not be found to accord with the laws of proportion as taught in the schools of art. Science has wrought a mighty change in nearly every department of knowledge. It is possible that a widespread understanding of the laws of physiognomy, as revealed by Nature, may also create a revolution in art. The Greek ideal of symmetry, to which the ages have given their assent, will be found to be based on mathematical calculation, and it is from this cold and mechanical idea of what constitutes beauty that the modern conceptions of beauty and proportion are taken.

A scientific comprehension of the law of proportion as shown in the human face will unfold more beauties than Greek art ever conceived. My understanding of beauty, as disclosed by physiognomy, is based on the idea that moral and intellectual beauty exhibited in the countenance and form constitute *true beauty*.

True greatness in the moral, mechanical, and mental constitution of man is not accompanied by any such law of proportion as the Greek or any other school of art has set forth. Nothing is more indicative of selfish will and heartless character than the so-called Greek profile. Lavater, the great intuitional physiognomist, savs, in discussing its signification :—

> Depraved is the taste which can call this graceful, and, therefore, it must be far from majestic. I should wish neither a wife, mother, sister, friend, relation, nor goddess to possess a countenance so cold, insipid, affected, stony, unimpassioned, or so perfectly a statue.*

A scientific interpretation of the face will reveal more beauties than the ordinary observer has any idea of; for when he comes to attach meanings to forms and expressions which indicate beauties of character, he will regard them quite differently than when in his ignorance they signified nothing to him; and when an intelligent observer looks with the eye of comprehensive understanding upon the countenances about him, his sense of the beautiful will be gratified beyond expression. A new world will open to him; and I predict that with a general diffusion of physiognomical knowledge a complete revolution in religion, art, hygiene, and government will be brought about.

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* Lavater's Essays, p. 432.

Proportion is as potent a factor in determining character as are Form, Size, or Quality; and yet an arbitrary system based on mathematical measurement cannot be set up, for the reason that very great diversity of form and size exists in which *symmetrical character* is exhibited. If we were to form a standard of beauty, and take for the standard those faces in which the most moral goodness or power for usefulness was disclosed, we should then have a more elevating and intelligent model than those already observed, which teach that beauty consists in mathematical proportions mainly, and not in those proportions and expressions which reveal moral grandeur or useful talents of a high order.

As has been shown, each of the five systems of the body produces a form peculiar to itself, and every human being possesses an admixture of a certain proportion of each of these forms. It will, therefore, be apparent to the observer that the law of Compensation is more potent in forming Proportion than any other factor. If these five systems were always blended in every form in exact proportions, we might then be able to realize the ideals of art in living forms, but this would not produce that differentiation of types which is needed to supply the varied wants of humanity. To carry out the idea of "diversity in unity," which is the ruling idea observed in progressive Nature, we must have constant modifications, which will, of course, produce ever-varying forms and countenances. This comprehensive differentiation results in higher development of species. It is a law throughout Nature that the greater the variety, the higher the power for development and progress.

The law of scientific proportion and beauty to be observed in the human face is illustrated in those countenances in which all of the features, taken together, express to the scientific reader of character a *balanced* condition of the mind, and consequently of the body.

The physiognomy of Washington is an illustration of good proportion. In his face and physique the five systems of functions are about equally exhibited, hence he was not great in any one given direction, but was great in any direction in which he chose to exercise his powers. He was a good farmer, an excellent surveyor, an able statesman and military leader; he was always self-poised, cool, and resolute; his inherited quality was of a high order, and the proportionate action of all his functions assisted his general power for usefulness. Each of the systems of the body has a beauty peculiar to itself, but an excess of either one of them causes, by its disproportion, a lack of harmony; therefore, a lack of true beauty. Too much brain exhibits as little beauty as too much fat; too much bone makes the individual awkward, ungainly, inert—lazy; a predominance of muscle causes its possessor to be too forceful and too much like an animal; too great a thoracic development causes an excess of hopefulness, and a tendency to fly from one thing to another without finishing anything.

The most useful men have been those who were either the best proportioned, or those who were the best balanced. Now, there is a difference in these two conditions—for example, an individual may have, like Thomas H. Benton, a disproportionately small brain, but with disproportionately large lungs. Here a balance is struck, and he is hence enabled to be most useful because the lungs and brain stand in such close relation to each other as to favor this particular method of balancing functions. If, on the contrary, the individual should have a preponderance of fatty tissue and disproportionate bones, the usefulness of the person is very much impaired because there is here no compensation.

This kind of disproportion can often be remedied by reducing the bulk of fat by hygienic measures, by non-use of liquids, and more exercise, particularly of the lungs, by swinging clubs or rowing, or by anything which will accelerate the action of the lungs, thus increasing their power.

Too great size of the brain system can be improved by using the muscular system more, by toning up the nutritive powers, and by dispensing with study, and taking more sleep.

All of the longest-lived persons that I have seen or those whose portraits I have studied have shown in their faces and physiques singularly harmonious or well-proportioned contours, and which showed that they not only possessed bodies of high or good quality, but also that their organs were so well proportioned that they were able to resist pressure or strain upon every part equally.

The most common form of disproportion of organs in civilized races is found in the want of lung development. This is not a natural condition, but will become a permanent one if the modes of dressing which women have adopted are not changed for more healthful styles. This, added to the bad air which is inhaled by both men and women who sleep in ill-ventilated rooms, and who sit for hours in churches, theatres, and public halls without any ventilation, is the main cause of the small, ill-developed lungs which are so common that consumption and other lung disorders are prevalent in all civilized countries. Indeed, large, well-developed lungs in women are so rare that I have heard dressmakers, who have a good opportunity for observing large numbers of women's forms, exclaim with astonishment upon seeing one whose chest was well-developed, and thought it certainly must be a malformation!

The way to reduce the disproportion between too great size of the head and too small lungs is by inhaling more pure air. The way to decrease the disproportion between too great fat and too small bones is to inhale pure air, drink lime-water, and exercise more. The way to decrease the disproportion between too weak a liver and too great an appetite is to inhale more pure air, use acid fruits, avoid sugar, and take more exercise.

It will be seen that fresh, pure air is the main reliance for the removal of all disproportions of form and functions, and that no amount of good, wholesome food can take the place of good, pure air. People can live longer and be healthier on very indifferent food indeed, if the air which they inhale be pure and plentiful, and the water drunk of good quality, than they can if these conditions are reversed. Where the brain is used too much, and the muscles too little, a disproportionate action is set up which will, in time, destroy the usefulness of the mind. On the other hand, if the muscles are called into activity constantly, and the brain used but little, the individual becomes dull of thought and speech; his sensibilities obtuse, his whole sensitive system is rendered sluggish, and all power of mental enjoyment is destroyed in a few years. Physical drudgery impairs the health and shortens life sooner than the most arduous mental labors. The numbers of farmers and farmers' wives and sheep-herders in the insane asylums of California predominate over those of any other classes of laborers. I am told that this is the case in other States. Now, these kinds of labor are more arduous and monotonous than all others, and the constant routine of physical drudgery unrelieved by any mental labor or mental enjoyment soon begets disproportion between the mind and the body, and the result is an unbalanced mind. The longest-lived persons have been those who have used the mental faculties greatly, but with reasonable regard to health. Many of our most distinguished literary men and women have lived to advanced age, and have enjoyed good health under constant and prolonged mental labor. Miss Caroline Herschel, the astronomer, died at ninety-eight years of age, after a life of both physical and mental labor. Harriet Martineau, an indefatigable English writer, lived to the age of seventy-four years.

Fontanelle lived to one hundred years of age. Joanna Bailly, a most industrious writer of prose dramas and poetry, lived to eighty-nine years. Humboldt, a writer, traveller, scientist and naturalist, after a life of most incessant mental labor and great attainments, died at ninety years of age. Sir William Herschel, a most eminent astronomer, lived to the age of eighty-three years. We seldom see a laborer who has pursued a vocation of purely physical drudgery live to an advanced age, and the reason of this is that too great an amount of physical labor establishes a disproportion between the physical and mental faculties, and an unbalanced condition being the result, life is shortened, or in many instances reason dethroned.

Where there are one or more faculties excessively developed, as, for example, Secretiveness, Cautiousness, Approbativeness, or Amativeness, or any other trait or traits in excess, they so completely dominate all others and color or shape the action of other faculties as to produce disproportionate action of some other faculties, and consequently of other physical functions. Too great Secretiveness induces a tendency to hold on to whatever the mind desires to keep secret; the glands and muscles both partake of this holding on and holding back principle, and the consequence is a *constricted* condition of the glands, as well as a similar condition of the muscles, particularly of the sphincters. As a consequence of this holding on and "keeping tight and close" feeling, the liver (the largest gland in the body) becomes inactive and sets up abnormal or torpid action, and the class of diseases called "bilious" are exhibited, and after awhile become permanent, and will cause death unless the disproportion between the two parts of the *mind* and *body* (for both mind and body are affected by this condition) is removed by cultivating a more open, frank, and communicative disposition, and at the same time using food and a regimen suited to this peculiarity of the glands and muscles. Herein is another proof of the unity or interaction of the mind and body—of mental faculties and physical functions.

In cases where Cautiousness is excessive, the character becomes timid, fearful, excessively watchful, filled with forebodings and apprehensions of the future, always looking for accidents, and prophesying poverty, calamities, etc. This condition of mind will in time produce such disturbances of the glandular and nervous systems as to cause insomnia, melancholia, suspicion and dementia, and will often end in suicide. Here again we note the effect of the mind upon the physical organs, and their functional interaction, and observe the serious results arising from a disproportionate action of the *mental faculty* of Cautiousness and the glands and nerves.

Where Acquisitiveness is too much cultivated the spirit of accumulation becomes dominant, and the body partakes of the same spirit by becoming clogged in all its functions owing to the large amount of gross matter which accumulates in the body, and here again we shall be able to observe the similarity of action between mental faculties and physical functions. The Hebrew race is a good example of this interaction of the faculty of Acquisitiveness and the functions of digestion, assimilation and appropriation. Most of their physical disorders arise from overappropriation of nutriment and accumulations of fatty tissues, which induce apoplexy, fatty degeneration of the heart, and other complications of overrepletion of the organism. Too much or too little of any given faculty or function is productive of disease and will shorten life, unless these proportions are such as will create a *balance*, as in the case of small brain and large lungs and heart. But wherever we look into Nature's operations we shall find that Proportion is one of her ruling principles, and if this law is broken and its provisions greatly violated in the human organism, suffering, both of body and mind, with ill health and shortness of life will ensue. How essential, then, is it that all should understand the meanings of the human face, as well as the signs of character revealed in the voice, the walk, the gestures, the attitude, and the contour or outline of the entire head and body.

Evenly-developed characters are not as apt to excel in one given direction as those who are less evenly balanced, but their chances for usefulness and longevity are very great, if possessed of a fine inherited quality. Most poets are disproportionately developed in their mentality, hence some of their physical powers are correspondingly defective, and this has caused many of them to die young. The Davidson Sisters, who showed uncommon talent for poetic construction as early as four years of age, died, one at sixteen and the other at seventeen years of age. Byron lived to only thirty-seven years. Edgar A. Poe died even younger. Shelley attained only to thirty years. Keats died at twenty-four. Mrs. Hemans expired at forty. Burns lived only to thirty-seven. All of the physiognomies of these poets express to the scientific reader either a disproportion between the physical functions or an inherited delicacy of the nervous system. He who reads the physiognomy scientifically understands measurably the law of destiny, and can easily predicate which organs will give way first and about how long they will last; also, the amount of strain the stronger will make upon the weaker. The law of Proportion as exemplified by the laws of physiognomy is a great advance in mental and medical science. It should be included in the curriculum of all medical colleges; and I predict that the coming century will see it established by the faculties of all such colleges, and chairs of *Moral Philosophy* will be held only by such as are conversant with Scientific Physiognomy. Lavater predicted that a *System* of Scientific Physiognomy would be formulated within this century, and, behold! it is here.

Comparative anatomy, as now taught in medical colleges, will be extended, and the meaning of all forms and shapes of the external parts of the organism will be taught to students just as physiognomy now teaches it, by the law of Proportion; and students will then be able to diagnose the power of the lungs or liver by the outline of the forehead; for the retreating forehead ever denotes an active liver, while a straight, full forehead rounding out at the highest part indicates the supremacy of the heart and venous system over the arterial system. Other shapes and outlines of the forehead convey each a different and distinct meaning which the law of Proportion teaches, and which will be found by the keen analyst to be infallible in their revelations. The secret of all great mental power is, after quality, right proportion in all bodily parts, and this proportion can be discovered in the physiognomy as well as in the body.

HEALTH.

The basis of all really useful character must be founded upon good health. The fact that some sickly poet or feeble saint has been able to live a term of years and spin out more or less weak sentiment and poetry is not proof that ill health is one of the conditions of either talent or piety. The asceticism of the middle ages taught that to vitiate and degrade the body by filth, starvation and deprivations of all kinds was to assure a more blissful state of the soul, and Hannah More—good, pious saint—wrote that a low fever was a "marvelous means of grace." We of the nineteenth century, under the enlightenment of the science of physiology and hygiene, differ with these ideas of an ignorant past, and believe that the first step toward saving souls is to save bodies. Indeed, it would seem but practical common sense, inasmuch as we are endowed with bodies, that we should take measures to understand and protect them, trusting to the Power that has given us our bodies to take care of the soul, which, since He has not made known to us its locality, we can do nothing to advance its interest beyond caring for the body and mind, which we have already in our keeping.

The first law of a sound and true religion should be the inculcation of sound health, and all religious tenets should be based upon a regard for fresh air, proper food and drink, upon suitable clothing, exercise, rest, pure amusements and sanitary regulations; these principles must be incorporated into all religions that truly desire the highest moral welfare of the people. A religion which ignores these principles as fundamental articles of its belief is not worthy the consideration of honest and sensible people. One generation of preaching on these subjects would advance the world immeasurably in morality and health, and consequently in prosperity. *Good character* is dependent upon good health for its support. If you answer me that you know many persons who are good, yet are in poor health, I reply that they would, without doubt, be *still better* people if their bodily conditions were more perfect and stronger. If ill health were conducive to goodness, then we should all strive to depreciate our health conditions in order to become more moral, more honest, more loving, wise and useful. The fact that some persons can preserve morality in *spite* of ill health is proof that they have inherited very excellent moral natures, and only need ruder health to become giants of morality and usefulness. That moral character, as well as the mental, is dependent upon sound organic conditions must be apparent to all thoughtful persons.

Treating of the connection between morality and organic perfection, Dr. Maudsley observes:—

> Now, if there be a class of persons without the moral sense, who are true moral imbeciles, it is the class of habitual criminals. All observers, who have made them their study, agree that they constitute a morbid or degenerate variety of mankind, marked by *peculiar low mental and physical characteristics*. They are *scrofulous*, often *deformed*, with *badly formed angular heads*, are *stupid*, *sluggish*, *deficient in vital energy*, *and sometimes epileptic*. They are of weak and defective intellect, though excessively cunning, and not a few of them are weak-minded and imbecile. The women are ugly in features, and without grace of expression or movement. The children, who become juvenile criminals, do not evince the educational aptitude of the higher, industrial classes; they are deficient in the power of attention and application; have bad memories, and make slow progress in learning; many of them are weak in mind and body, and some of them actually imbecile.*

Here we have the statement of one of the first writers on Mind, giving the opinion that moral defects are accompanied with *low physical* conditions. Any careful student of this work will soon become convinced that moral character and sound organization are inseparably connected, and that in order to have moral children they must not only be healthy, but must be the inheritors of normal ancestral influences of both mind and body. Good health is the greatest desideratum of existence; without it all the luxuries that wealth can procure pall upon the senses. Only strict adherence to hygienic law can secure a fair share of this most desirable condition. The greatest talents without health amount to little, and if a man would become proficient as an artist, writer, inventor, or actor, a fine and healthful state of lungs and liver are quite as essential as a cultivated brain. A weak and defective bodily organ will sometimes neutralize completely all the efforts of the most profound and polished intellect. It is said that Napoleon lost the battle of Waterloo through suffering from a fit of indigestion, and I think we have all had experience enough to know that the most vital interests of life are often jeopardized by temporary ailments, brought on by imprudent eating, drinking, or injudicious amusements or excitements.

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* Body and Mind, Henry Maudsley, M.D., p. 110.

A brain or body of the highest quality may become perfectly demoralized by long-continued misuse of its functions and faculties. Indeed, a high quality of brain demands good lung-power for its highest efficiency, and this can ensue only by being supplied with plenty of pure, fresh air. Ventilation is one of the highest, if not the first, demands of life. It is not at all strange that there are so many weak, pale, sallow, consumptive men and women in the community, who, notwithstanding the fact that they have good and expensive homes, fine raiment, and luxuries untold, are yet the victims of ill health, caused in many instances by the *defective ventilation* of their homes, and particularly of their sleeping-rooms.

Precocious children, who might in many instances live to become noble and useful men and women, die in childhood for want of pure air and physical exercise. Children who are endowed with genius and talent and who have a lack of vitality should not be encouraged to overexert their intellect in their youth, but, instead, should pass most of their time out of doors gardening, rowing, swimming, chopping wood, weeding vegetables, or in a gymnasium developing the muscles and lungs, until the body is able to support the brain and nervous system already too active and sensitive. An harmonious balance between the mind and body could by these means be obtained. How many lovely, beautiful, and talented youths fill an early grave from the injudicious treatment or want of hygienic knowledge on the part of parents!

Nothing can be more conducive to the mental welfare of a child than outdoor life and labor, and all children of uncommon mental powers need a *motive* for physical effort, and this can be supplied by giving them tasks, paying them for them, and having them well done. *Sensitive, nervous children* would be greatly benefited if the first ten years of life were given up *exclusively* to outdoor work and play alternately. The degree of health attained, not to mention the *substantial character* gained by such a course, can hardly be estimated. Work is a vital necessity and *molds character;* play should be used only as a rest from labor, and those who work in their childhood are more reliable and responsible characters than those who do nothing but play all through their early years. The men and women of the last generation were more substantial and useful than the present, and one reason for this is found in the fact that formerly all children had tasks and duties to perform. The word *duty* meant a great deal to them, and was an incentive to noble effort, because they were thus trained. Children in most instances will be greatly influenced by their early training, hence the first years of a child's life are the most important ones. If good health be desired, youth is the time to lay the foundation for it. Many distinguished and learned people, who were born sickly and were feeble in youth, have passed lives of great usefulness and died at advanced age. Fontanelle was a very sickly and weak infant, yet he lived to be one hundred years of age. Albert von Haller, a celebrated Swiss physician, was "rickety, feeble, and delicate as a child," but lived to the age of sixty-eight years; he was one of the greatest medical minds of the world. Baron Cuvier, an illustrious naturalist, was feeble in childhood, but became robust in after life; he was most industrious and attained the age of sixty-three. Augustin de Candolle, a great botanist, nearly died of hydrocephalus at seven years of age; he was feeble until fifteen, when his health improved, and he lived to the age of sixty-three, having passed a most useful career. Aristotle, the most eminent of ancient philosophers and naturalists, was a weak, precocious child, but lived to an advanced age after performing almost herculean mental labor. Many more cases might be mentioned of the same sort, but sufficient are given to show that weakness in childhood can be counteracted by judicious hygienic treatment, which will prolong life and restore health. The let-alone cure is one of the best for precocious or feeble youth; let them grow up as do the plants, in a free, wild, and natural manner. Such children thus treated will more than make up in after years all the time considered *lost* by fond and anxious parents, who are very apt to regret the loss of early schooling and study by their children.

A majority of those who are born healthy and with sound organs in most cases become weakened by ignorant or foolishly-fond parents, who often allow children to have their own way in regard to eating, sitting up late at night, playing too much or too violently (who ever heard of a child injuring itself at work?), and yet most parents are afraid to set their children a task for fear that they will be injured by it, while at the same time they allow them to play without supervision (and many of their games are conducted without judgment, and prolonged until exhaustion ensues); yet parents would not think of allowing their youth to exercise one-half as hard or as injudiciously at their work as they do in their sports.

It is more essential to oversee children at their amusements than at their tasks. Few parents feel this necessity, but if one will only observe the little girls in a school-yard jumping ropes in the violent manner which is their habit, one will become convinced of this necessity. Dancing is also carried to a great extreme, and needs to be corrected. It is usually prolonged too far into the night for health, and this phase of it should be discouraged. A good substitute for dancing is gymnastics; club-swinging is a fine exercise for health, and quite exhilarating; as suitable for children and young ladies as for gentlemen. A pair of Indian clubs should be included in the furnishing of all homes. Dr. Dio Lewis' Light Gymnastics will be found most excellent aids to vigorous health, as well as Butler's Health Lift and the Reactionary Lift. All these can be obtained for less than the price of one fashionable suit of clothes, and every household should have them as an essential part of its furniture.

I think the reader has long ere this become convinced that size of the brain, body, or nose *alone* does not indicate either mental or physical power. Neither does quality alone, nor form, nor proportion, but a modicum of all these qualities and conditions is essential.

If the size of the nose observed in a given subject would seem to exhibit mental power, the *quality* of the texture of skin, hair, and eyes must be diagnosed before judgment can be passed. Then, in order to know what *direction* the mind takes, the *form* of the nose must be understood; then the color taken into consideration, and the proportion which each feature bears to the others should be noted, and then the proportions of the body must be observed. At the same time the health conditions of the individual must be taken into account before a just verdict of character can be rendered. If size, form, quality, color, and proportion are all in favor of a good and useful character, and good health be wanting, all these indications are greatly modified, because the *motive power* of the body is feeble and the organism is an inert mass, without ability to carry out its mental behests.

The mind and body being a unit, and so closely interrelated, it is impossible for the one to be very greatly defective without involving the other.

Drug Medication.—Unless by the intelligent direction of the medical profession, drug medication is generally a dangerous practice. The intelligent use of Nature's medicines,—diet, light, heat, pure fresh air and water, and rest,—at the commencement of many ailments, will in most cases remove morbific influences and assist Nature in throwing off disease. Very often serious injury is done the human constitution by an indiscriminate use of patent nostrums or private recipes. Unless such medication is of some simple remedy of known value and intelligently used, a train of evils may be set up that will take many months of patient care and the attention of a conscientious physician to overcome.

If, in case of threatened sickness, one will at the outset give up for a few days his accustomed business, control a probably abnormal appetite, and rest from all care, labor, and anxiety, this course, with exercise properly taken, may avert many a serious illness and save much suffering. I have found hot water a splendid tonic for a jaded, all-gone feeling; and a glass of hot milk, on retiring, has often worked wonders with a stomach depressed by nervous excitement or late suppers. The fact is, in this electric century we eat too fast, too much, and ofttimes improper food, improperly cooked.

We must, if we wish to progress and get all out of life possible, reform our kitchens and our dietary. A dish of pork and beans, pot-pie, and soggy bread and pastry may be all right for the average laborer in the ditch (even that I question), but, for the delicate young woman at the desk or the man of business at his office, such a diet is entirely inadmissible.

Thousands of persons annually swallow various drugs in the delusion that they are toning up the system, while in many cases they are doing themselves irreparable injury through not knowing what they are taking or what its effect will be on the system. The medical profession are now honestly and conscientiously devoting much time, thought, energy, and labor to hygiene, and publications on this essential subject should be more sought for. Every family should have some good work on hygienic topics, and follow the suggestions which in the majority of cases are essential to good health and looks. While I am writing on the subject of health, I would religiously urge upon all heads of families the necessity of keeping the cellar and back-yards scrupulously clean; it is just here where many a case of typhoid fever, etc., has its first start, more particularly in the large centres of population.

If municipalities would spend more money to provide pure, wholesome water, and insist on better methods of house-hygiene, many diseases of an epidemic character might be stamped out, and the human race improved in physique and endurance. Cleanliness is the price of material progress, and I cannot too strongly urge upon my readers the necessity of household and personal cleanliness.

I propose in these chapters to teach the reader that the health principle resides in the human system, and is only imparted to it by Nature's own peculiar remedies, viz., pure air, sunlight, water, exercise, rest, suitable food, magnetism, electricity, and *self-control* and *self-denial*, the last two being the main factors. These are all aids to health, as well as to a truly religious condition; in fact, health and religion seem to me to be very closely allied. It is true, we shall have to modify our preconceived notions of both subjects, and not regard health as something which the doctor has on hand, or that the apothecary keeps in a bottle to be dealt out by the dollar's worth; nor should we understand religion as something that the minister has in a church, and of which he has the monopoly to impart at his pleasure. No, dear reader; religion and health are not in the hands of monopolists, but reside within *our own* organizations, and are matters that *we* have control of mainly. Happy he who has inherited both a religious and a healthful organism! for such beings are capable of great good to others, and to whom "much is given much shall be required," and to do for those who are impoverished in mind and body is one of the greatest joys and luxuries of life.

The features of the face, taken one by one, then all together, *without any reference to the shape or size of the head*, will unfold and describe the entire character of the individual. Not only will it do this, but it will also give us the history of his tribe, his ancestry, his past, and the probabilities of his future. Physiognomy is the only science with which I am acquainted that will *foretell* the future as well as reveal the past with certainty. In making delineations of character, and in predicting future powers and capacities, the diagnostician must ever keep in view the influence which a state of high good health will have upon the efforts of the individual. With good health almost anything is possible; without it very little, indeed, except wretchedness and a state of general depravity. In order to understand any given face, the health conditions, past and present, must be had in consideration before a verdict or final summing up can be made.

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* Medical Almanac, 1875.

COMPENSATION.

All through the various forms of wnat may be termed the higher development of organized life—from the insect up to man—we find clearly established a law of Compensation, or, as I am sometimes impelled to call it, a law of Substitution; for its action does not seem to always *fully compensate* for absence of qualities, but rather *substitutes* other powers, both physical and mental, for defects which would render the organism helpless or unhappy without some assistance from other faculties and functions. In this relation I shall—as this is a very important branch of my subject—dwell briefly on its action in the lower organisms, and will then proceed to discuss its operation in the human mind and body. And here let me remark that while the law of Compensation has been recognized by naturalists in the animal organism, it has never been applied scientifically to the workings of the human mind, so far as I have been able to learn.

The compensatory structure of animals will be easily recognized in the following statement of Paley. He remarks:—

> In many species of insects the eye is fixed, and consequently cannot turn the pupil to the object sought. This great defect is perfectly compensated by a mechanism not easily observed. The eye is a multiplying glass, with a lens looking in every direction, by which means—although the orb of the eye be stationary—the field of vision is as ample as that of other animals, and is commanded on every side. We are told that one thousand four hundred of these reticulations have been counted in the two eyes of a drone-bee. The wing of a bat is furnished with a mechanical contrivance in the form of a hook, with which it fastens itself to the surface of rocks, houses, and caves. At the angle of the wing there is a bent claw. It hooks and remains suspended by this claw; takes its flight from this position. As it can neither run upon its feet nor take its flight from the ground, this unique instrument was necessary. A singular defect required a singular substitute. The proboscis of an elephant is a compensation for the shortness of its neck. A snail is compensated by the secretion of a viscid humor which it discharges from its skin; and so, in the absence of feet, is enabled to ascend the stalks of plants with facility.
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> The common parrot has in its structure of the beak both an inconveniency and a compensation for it. When I speak of an inconveniency I have a view to a dilemma, which frequently occurs in the works of Nature, in that the peculiarity of structure by which an organ made to answer one purpose necessarily unfits it for some other purpose. This is the case before us. The upper bill of the parrot is so much hooked and so much overlaps the lower that if, as in other birds, the lower chap alone had motion, the bird could scarcely gape wide enough to receive its food; yet this hook and overlapping of the bill could not be spared, for it forms the very instrument by which the bird climbs, to say nothing of the use which it makes of it in breaking nuts and the hard substances upon which it feeds. How, therefore, has Nature provided for the opening of this occluded mouth? By making the upper chap movable as well as the lower. In most birds the

upper chap is connected and makes but one piece with the skull, but in the parrot the upper chap is joined to the base of the head by a strong membrane, placed each side of it, which lifts and depresses it at pleasure.

The spider's web is a compensating contrivance. The spider lives upon flies without wings to pursue them, a case one would have thought of great difficulty, yet provided for, and provided by a resource which no stratagem, no effort of the animal could have produced, had not both its external and internal structure have been specially adapted to the operation.*

I could multiply these examples *ad infinitum.*

In the human family the illustration of the law of Compensation is more extended, and includes the mental as well as the physical system. This involves some knowledge of the law of Proportion, or harmonious development of the body, upon which, of course, depends the harmonious action of the mind; for, as before stated, certain conformations of the body produce certain mental faculties. It therefore behooves us to know to which forms these faculties are related and how produced.

I will notice, first, the operation of the law of Compensation as regards the human organism physically, or, rather, physiologically. In cases where one lung is weak, the other often increases in *size* and *power* to make up the deficiency. Deaf-mutes are compensated by an increased activity of other senses. Blind people are unusually gifted with an acuteness of the senses of hearing and touch. Where the kidneys are small or weak the skin is uncommonly active, and assists the kidneys in carrying off the waste of the body. These are some of the ways in which Nature compensates for defective and inharmonious organizations. The manifold action of the law of Compensation, as exhibited in the working of the human mind, is as wonderful as it is beautiful. I shall have space here to offer only a few illustrations, and leave the rest for the investigations of my readers.

If you observe an individual with very small Self-esteem, which is indicated by a short upper lip, you will find Approbativeness, Imitation, and generally Mirthfulness correspondingly large. The philosophy of this form of compensation is, that as small Self-esteem produces sensitiveness to the opinions of others, Imitation seems given the individual to assist him in entertaining and attracting, while large Mirthfulness gives the faculty of amusing and of being easily amused, and, consequently, prevents the individual from becoming unhappy through the consciousness of the absence of Self-esteem; for any deficiency which prevents a balanced condition produces a want which is *instinctively* felt. I hold that we all instinctively *feel what we are*, whether we acknowledge it in words to ourselves or not. Actors, as a class, possess the faculties of Imitation and Mirthfulness in a large degree, and most of them will be found deficient in Self-esteem, but large in Approbativeness; for it is not their own esteem that they desire and which satisfies them, but the approbation of their audiences. A large proportion of them have a short upper lip—relative length of the upper lip indicating a good development of Self-esteem. An individual with large Self-esteem being self-sufficient—that is, more given to regard his own opinion of himself than to accept the estimate of others in regard to his character—feels no particular sensitiveness as to what others think of him, and therefore depends upon himself, *just as he is*, for the power to attract and hold the esteem of others. Self-esteem lends dignity to its possessor, and creates a substantial and decorous demeanor, which, in itself, has the power to fasten the good opinion and attachment of others, and he therefore needs none of the fascinations of imitative talent to attract friends to himself. Indeed, every one could not be attracted by the same qualities, and so Nature gives this infinite variety and diversity for the satisfaction of our minds and for the varied uses of mankind.

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* Chambers' Information for the People, vol. ii, p. 201.

Where Friendship is lacking we often see Benevolence compensating the character. Where Constructiveness is wanting Size and Form assist, by an increased development, in making the individual useful in some branch of mechanical art. Many persons possessed of highly artistic natures very often exhibit a large share of Acquisitiveness, and sometimes evince a strong commercial spirit; this acts in a compensating manner, and takes the place in them of the practical faculties. This system of Compensation inheres in the entire mental constitution. Later on I shall refer to this subject and to the localizing of signs of character. Enough, however, of the compensatory action of the mind has been shown to illustrate its methods.

The preceding consideration of the sub-basic principles of physiognomy leads us to regard the following laws as established, viz.:—

The *size* of the nose (governed by quality) is the measure of power, both of the mental and physical nature.

The *form* or shape of the nose indicates the kind or direction of the power.

Quality of the skin, hair, and eyes is decisive as to the grade of the individual, mentally and physically.

Color of the skin, hair, and eyes is indicative of the amount of force present, and of the health conditions.

Proportion or harmonious development of the face denotes balanced character and equilibrium of the bodily functions.

Good health is essential to normal action of body and mind.

Compensation is the endeavor of Nature to assist unbalanced organisms.

This exposition of the sub-basic principles of physiognomy will teach the reader that in analyzing the character very many principles are involved and must be considered in order to render a just reading of the face. Besides the requisites here mentioned for consideration, there are many facial expressions which have been acquired by long use or misuse, which always leave their impress indelibly stamped upon the countenance. A man can no more work as a blacksmith for years without showing the increase of muscle in his arms than can one use constantly the same set of muscles in the face without their leaving a permanent indication of such use. By watching closely the movements of the mouth in talking, one can form a very good estimate of the kind of language which that mouth has been accustomed to utter —whether it be kind, gentle, and loving, or cross, peevish, bad-tempered, and profane. The record is indelible, and cannot be easily erased or changed except by long practice in another direction. All abuses of the physical functions write their record upon the face. The dram-drinker, the sensualist, the glutton, as well as the sneak and liar, may be all detected by a close observer who has learned to apply the rules of scientific physiognomy.

Of this tendency of the muscles to reveal long-continued states of mental and physical abuse, Dr. John Cross remarks:—

> It lies with physiognomy to detect the impostor; for however well he may manage to jabber about morality, honor, or even religion, yet he cannot hinder the muscles without from obeying the central impulse, nor can he prevent an organ whose function is perverted from falling, according to the self-accommodating power, into color, size, and shape most suitable to the performance of this perverted function.*

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* An Attempt to Establish Physiognomy upon Scientific Principles, John Cross, M.D., p. 12. Glasgow, 1817.

CHAPTER V.

RATIONALE OF PHYSICAL FUNCTIONS AND MENTAL FACULTIES AND THEIR SIGNS IN THE FACE.

> "Whether the soul be air or fire, I know not; nor am I ashamed, as some men are, in cases where I am ignorant, to own that I am so."—CICERO.

> "It will be understood by the word Mind we do not designate the intellectual operations only But the word Mind has a broader, deeper signification; it includes all sensations, all volition, and all thought; it means the whole Psychical Life. And this psychical life has no one special centre; it belongs to the whole and animates the whole."—GEORGE HENRY LEWES.

THE plan of this system of physiognomy would be incomplete were I to omit the *rationale*, or theory, of the action of the several organs and systems of functions comprised in the human body, and which assist in producing the various social, moral, and mental phenomena observed in the actions of the individual, and which collectively I term Mind. Many philosophers have endeavored to ascertain the basis of mind; and by mind I mean that class of phenomena called reason, sentiment, mental operations, morality, the emotions, the passions, such as anger, jealousy, fear, hope, love, friendship, etc.

The action of these is generally considered to be the result of brain- or will- power, with which the interior organs of the body have little or nothing to do. Theologians teach us that the influences prompting many of the emotional states, such as anger, hatred, revenge, jealousy, and the like, are created by a spirit denominated a "devil." The acceptance of this theory would end all further inquiry on the subject. My observations do not corroborate their explanation of these phenomena, and I am consequently forced to bring against this view the Scotch verdict of "not proven." My theory of the passions, so-called, will be found in the chapter on "Theories of Certain Traits," and the face read scientifically will corroborate this theory.

Many diverse methods of ascertaining the basis of mind have been employed in all ages, yet without satisfactory results. Philosophers both in ancient and modern times have pursued the method of sitting in judgment upon their own mental states, and have analyzed their mental processes, in order to give a *rationale* of mind. These observations have been made without reference to bodily conditions by treating of the mind as an entity, something almost separate from the body, and not co-operating with it, but acting in concert with another entity denominated a "soul." This view of mind has met with popular acceptance for ages, and to this day the most crude, hazy, and uncertain idea of the location and construction of the mind is prevalent even in the most cultivated circles. So vague and indistinct is the understanding in regard to mind that for two thousand years the words "soul" and "mind" have been used synonymously. A reference to the literature of the past will show that this nomenclature was popular among all classes of writers. Since the wonderful invention of mechanical instruments which the last century has witnessed, the instrumentalities essential to experiment in all departments of study have been increased; hence it is that men have been enabled to commence anew, and with improved implements, the investigation of mind on a more scientific basis than that formerly employed by the old-time philosophers. Experiment has been followed by demonstration, until now the best anatomists and physicians—especially those having charge of the insane, the feeble-minded, the defective and the criminal classes—have become more enlightened on the subject of mind and its sources and seats. Their experience has led them to take a more comprehensive and practical view of mind, and one less imaginary and sentimental than those promulgated by ancient faiths and philosophers.

Phrenology appeared early in the present century and did a great work in breaking up the idea that mind was a unit, which was one of the fundamental errors of the old school of philosophy. Yet phrenology, radical, daring, and progressive as it was compared to the then existing theories, was in its basilar construction erroneous. The theory that mind was composed of many separate parts, each having a "local habitation and a name," was an innovation and a step forward; but when it took the ground that mind is *shut up in the brain*, and held it a prisoner there, and that all mental powers proceed from that source and are confined to that locality, it formulated an error, of which its founders were not, of course, aware. They did a good work in their day, according to their best light, and the world is the better for it; but modern science reflects sufficient light of a more advanced character; hence—

> Phrenologists are bound by all laws of truth and science to advance with the age, and give a more scientific explanation of mind, and connect their theory and observations with the entire nervous system and visceral organization. (Lewes.)

My theory or philosophy of mind will be unfolded in this work. It takes the ground

That mind inheres in the entire organism, and that the face read scientifically reveals all the conditions of mind and body;

That the brain is the chief mental organ;

That it is also the locality where co-ordination of the motor and sense systems takes place;

That one office of the brain is to assist the voluntary muscles to contract;

That all parts of the body and mind have local representation in the brain;

That the several ganglia and plexuses are mental organs and directly concerned in mental manifestations;

That the *entire* nervous mechanism as well as the muscles, the skin, the bones and the *entire visceral organization* are mental, each in its own way and degree, and altogether in their operations make up the sum total of what we call mind;

That every mental faculty has a physiological or anatomical base, and that each mental faculty can be traced directly to its own appropriate base, whether located in a ganglion, a visceral organ, or in the muscular or osseous system;

That the office of the mind is threefold, viz., to produce, first, sensation; second, intelligence or consciousness; third, thought or ideation. All of these three departments of mind are founded upon the sensations felt and the intelligence conveyed by the several parts of the nervous mechanism;

That the *entire* human structure is essential to the expression of mental effort, and that mentality cannot be excluded from any organ or function whatever, yet the fact is recognized that some functions contribute more directly than others to mental efforts, each in a different degree and kind;

That the human face, read scientifically, reveals all interior physical powers, as well as all mental states, and is both the proof and result of evolution, and, lastly, proves

That the human organism embodies all of the basilar principles of chemistry, architecture, and mathematics observed in the mineral, vegetable, and animal kingdoms, viz., the laws of gravitation, capillary attraction, color optics, pneumatics, crystallization, acoustics, the mechanical principles of the several lever powers, the hinge, the valve, the ball-and-socket joint, together with the principles of electricity in the brain and nervous system, and of magnetism in the muscles.

Let it be understood that no attempt is made in this work to connect the mind and soul, and that the term *mind*, as herein used, refers to the material mind found organized with the material body. The task of connecting the mind with the soul is left to theologians. My own theories on the subject of the soul I do not offer as scientific. Yet it may not be inappropriate for me to state that it appears to me that one life and principle animates all created things, which seem formed according to a universal plan and design.

My theory will now be unfolded and will show that mind and body are one and indivisible, and cannot be judged as entities; for mind inheres in every atom of the body. All intellectual and moral powers are indebted to physiological organization to exhibit their ability. The office of the mind is threefold, viz., to produce sensation, consciousness, and ideation. The chief organ of sensation is the entire outer skin-covering, together with the so-called "five senses." The visceral organs, together with the bones and muscles of the body, contribute their share of sensation; while the nerves assist in conveying intelligence to the chief mental organ, where sensation is, as George Henry Lewes expresses it, "in some profoundly mysterious manner elaborated into ideas." Wherever there is a ganglion, or plexus, or a branch or filament of the nerves, there we find mentality,—that is to say, sensation,—for the nerves ramify upon every organ and form a net-work over the entire skin-covering of the body. Hence it is that we know that fine, thin-skinned persons and animals are more sensitive and more intelligent than those possessed of thicker and coarser skins. Here, then, is a most convincing proof of the direct relationship between the *two extremities* of the mind—the brain and the skin. The sooner we discard the idea that mind and morals are shut up in the skull, and instead adopt the truth, that mind and morality are dependent upon physiological formation and exist and are exhibited in every atom of the body, the sooner shall we arrive at the correct basis of mind. We shall then understand that normally organized bodies are more capable of the highest morality and mentality than are defective or diseased ones. The human mind cannot conceive of anything, not even of a "soul," which does not possess a material form or shape and composed of material of some sort, whether gaseous, ethereal, celestial, or in some manner or of some substance or property which exists and is known already to the human mind; for it is impossible to think or imagine anything with this *human material mind* that is not material; call it "spiritual" or "divine" or what we may, it is not thinkable in other than material form or substance.

The more recent of the philosophers and writers on the origin of mind—Messrs. Spencer, Lewes, Haeckel, Lindsay, and others—

have adopted the plan of seeking for the constituents and origin of mind by the investigation of matter, viz., in the *bodies* as well as *brains* of animal and human organisms. And here I believe the problem will be solved. The introduction of words into our language, representing ideas which are as far as scientific demonstration is concerned entirely without foundation or support, has caused much confusion in the minds of the masses of mankind. Before proceeding in this study, the *idea* of "soul" as being in any way related to mind (for at present we can offer no scientific proof that it is anything but an idea) must be dismissed. This will clear away the hindrances, so that mind can be demonstrated through the action of physical phenomena entirely, and without the complications and confusion which would ensue were we to endeavor to prove the origin of the mind by mysterious doctrines dependent entirely on speculation and faith for their explanation.

The brain has been considered by most metaphysicians, philosophers, and anatomists even, to be the *sole* source and seat of the mind. Recently, a dim suspicion has been creeping into the minds of the more advanced and intelligent observers and thinkers that this may be an error. The proofs of the theory of the soul and mind, so much dwelt upon by the ancient metaphysicians, have no material or tangible basis upon which to commence experiment and demonstration, but rest entirely on belief or faith. Hence, in the investigation of mind, we are necessarily limited to the observation of matter. By confining ourselves to this domain, we shall reach conclusions which I believe will be decisive.

The cerebrum, or front portion of the brain, has for a long time been considered by anatomists as the locality where thought, emotion, volition, and sensation are in some way (unknown) brought into a condition called consciousness. By recent experiments upon animals, and through accidents to human beings, it is demonstrated that the cerebrum does not possess the power formerly attributed to it. Much of it has been removed without destroying life and without causing the cessation of the principal physical functions. Indeed, in one instance, well authenticated by Longet, as quoted by Lewes, it is related that

> A newborn infant, whose brain during the birth had been completely extirpated (to save the mother's life), was wrapped in a towel and placed in a corner of the room as a lifeless mass. While the surgeon was giving all his attention to the mother, he heard, with horror, a kind of murmur proceeding from the spot where the body had been placed. Soon a distinct cry was heard, and, to the surprise of all, this *brainless* infant was seen struggling, with rapid movements of its arms and legs. It cried, and gave other signs of sensibility for several minutes.*

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* The Physiology of Common Life, George Henry Lewes, p. 161.

Dr. Dalton, in giving the result of experiments he performed in removing the cerebrum of a fowl, says:—

> It was not accompanied with the loss of sight, of hearing, or of ordinary sensibility. All of these functions remained, as well as voluntary motion.*

This is a mere allusion to the mass of evidence observed and collected by different anatomists, all going to prove that the brain is *not the exclusive seat* of sensation and consciousness. I advise my readers to consult the book from which these examples are taken, as well as the later work by the same author, entitled "The Physical Basis of Mind."

Let every fair-minded, unprejudiced person ask himself this question: For what purpose are the nerves and ganglia connected with the several visceral organs?—what is their use? Why, says popular opinion, to carry to the brain the knowledge of the condition of those organs. Is that all their office?—is there no *power* evolved from these organs?—do they not sustain or create and nourish certain so-called "mental faculties"? Whence, then, is derived the sentiment of Love, for example?—is it manufactured in the brain and exhibited only by the voice, by sentiment? If this were the case, then it would result in *words* only. This sentiment of Love is derived, in my opinion, from a physical base—from the functional action of the reproductive system—and results, in most cases, in functional activity of this system by reproduction. I think the most superficial reasoner will not dispute this. Now, if *sentiment* is derived in one instance from the *functional action of one visceral organ* and its ganglion or plexus, would it not be corroborative evidence as to the *ability of all the other viscera to produce or create other kinds of sentiment*, such, for example, as Friendship, Conscientiousness, Love of Young, Benevolence, or Cheerfulness?—which last many of the most ignorant, even, understand is in some way connected with a healthy condition of the liver; for when they observe one who is "blue," as they express a despondent state of mind, they invariably ascribe it to a disordered condition of the liver, and correctly so; for Hope, which creates a cheerful disposition, is directly related to the liver; and if the sentiment of Hope depends upon the normal action of that organ, how can it be said that Hope is a purely *mental* attribute, and created in the brain? I grant that the liver must be connected with the brain, as we know it is, by the great sympathetic or nervus vagus; but I deny that Hope is manufactured there. Its seat and source is in the *liver*, and depends upon, first, its natural construction, or size and quality; and, second, upon its normal condition. These two requisites being had, we find a cheerful, hopeful individual, with a clear, fertile, suggestive mind—so clear, indeed, as to make him highly analytical in everything which he observes or does. I know all this is antagonistic to the popular idea of mind, of sentiment and emotion; but whence, I ask again, does Mind derive its power? Not from the brain alone, because I have given you the evidence collected by such eminent students as Lewes and Dalton, and the opinions of others as learned will follow this. I have shown that, in the case of the newly-born child, movement, respiration, and vocal exercise were possible without any brain whatever. Now, if this be possible without brain, then the power was derived *from some other source.* I claim that it came from the plexuses of the several visceral structures; and the face, which is an exact register of the size and power of the various organs in the body, will prove to any good observer, who cares to investigate the science with a dispassionate mind, that where the signs for size of certain visceral organs are found in the face, the mental characteristics, which I claim are related to these organs, will be exhibited in every instance. Is this fancy or imagination, fact or fiction? The proof is within reach of every reader: let him justify my theories, or disprove them by evidence as conclusive.

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* The Physiology of Common Life, George H. Lewes, pp. 76, 77.

The more advanced of writers on mind at the present time are a unit in their understanding of the oneness of body and mind, and of the intimate connection of the organs of the body with the functional action of the brain. Of these writers, none have advanced opinions that have commanded more attention and respect than Dr. Henry Maudsley, author of "Physiology and Pathology of Mind," "Body and Mind," etc.

Of the unity of body and mind, he observes:—

> So intimate and essential is the sympathy between all the organic functions of which mind is the crown and consummation that we may justly say of it that it sums up and comprehends the bodily life,—that everything which is displayed outwardly is contained secretly in the innermost. We cannot truly understand *mind functions* without embracing in our inquiry *all the bodily functions*, and I might, perhaps without exaggeration, say, all the *bodily features.**

One of the most mischievous ideas prevalent is that the moral sense is not created by the bodily organization, but that it, in some mysterious and unknown manner, is connected with a "soul" or "spirit" that is external or superior to the body, and cannot be improved or injured by the inherited or varying conditions of the bodily organs. It is popularly believed that a religious or moral training alone imparts the power for effective morality, and that a certain degree of the "grace of God" (which can be had only by complying with certain religious rites and ceremonies and by believing certain sectarian dogmas) is the most essential condition toward moral life and action. Those who have studied the pathological changes of the human mind and body, as well as those who have learned the meanings which Nature reveals in certain forms, colors, and qualities exhibited by the human face and body, have become thereby convinced that there are more potent and certain causes for the presence or absence of the moral sense in man than those. Perhaps the most efficient cause is found in inherited tendencies either for or conducive to moral power. On this subject let me again quote Dr. Maudsley. He writes thus:—

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* Body and Mind, p. 29.

> When we come to deal with examples of moral degeneracy, whether among the insane or among criminals, we must perceive at once that it is not sufficient to ascribe immorality to the devil; that we must, if we would not leave the matter a mystery, go on to discover the cause of it in the individual. The effect defective comes by cause, we are constrained to believe. What is the cause and what are the laws of moral degeneracy? As society is constituted, certain forms of evil-doing are certainly not profitable in the long run. How comes it, then, that an individual capable of looking before and after, remembering the retribution of past sin and foreseeing the Nemesis that awaits on wrong-doing, is so forgetful of true self-interest as to yield to evil impulses? And whence do these impulses come? One thing is certain, that *moral philosophy cannot penetrate the hidden springs of feeling and impulse; they lie deeper than it can reach, for they lie in the physical constitution of the individual,* and, going still farther back, perhaps in his organic antecedents. Assuredly, of some criminals, as of some insane persons, it may be truly said that they are born, not made. They go criminal as the insane go mad—because they cannot help it. A stronger power than they can counteract has given the bias of their being.*

Later, he remarks:—

> I do not dispute that much may sometimes be done by education and training to counteract in this respect the ills of a bad inheritance, but it is still true that the foundations upon which the acquisition of education must rest are inherited, and that in many instances they are *too weak to bear a good moral superstructure.*

Dr. Maudsley and all other writers on the origin of mental and moral states will grope in darkness on many points, unless they study the human face as shown by the light of scientific physiognomy. This will reveal many obscure and hazy phenomena connected with mental and moral manifestations. This knowledge is at this juncture very much needed. The following observations from Dr. Maudsley reveal to us that he sees the probability of physiognomical knowledge, and of its use in the treatment of the insane and morally weak, for he observes:—

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* Body and Mind, pp. 108, 109.

To me it seems not unreasonable to suppose that the mind may stamp its tone, *if not its very features, on the individual elements of the body*, inspiring them with hope and energy or infecting them with despair and feebleness. A separated portion of the body, so little that our naked eye can make nothing of it,—the spermatozoon of the male and the ovum of the female,—does, at any rate, contain in a latent state the essential characters of the mind and body of the individual from whom it has proceeded, and, as we are utterly ignorant how this mysterious effect is accomplished, we are certainly not in a position to deny that what is true of the spermatozoon and ovum may be true of other organic elements; and, if this be so, then those who profess to discover the character of the individual in the *character of the nose, and hand, and features, or other part of the body, may have a foundation of truth.**

Many of the greatest pathological mysteries will be unveiled by a knowledge of the human face. Much of the ignorance in the treatment of the insane, idiotic, and morally weak will be removed when our medical practitioners study this science as a part of their college course. And not until this is done shall we have true physicians, for to ignore the human face and all that it reveals of existing states, temporary, permanent, and ancestral, is to ignore the most important part of human knowledge. Consider the value of being able to locate the signs for all the visceral organs in the face. This has never appeared in any medical work in the world, yet it is properly a part of medical knowledge.

Observe the immense power a knowledge of this, together with the mental signs, would give to those who have charge of the insane and imbecile. A true moral and mental philosophy is impossible without scientific knowledge of the human physiognomy.

A vast and weighty amount of evidence as to the *locale* of the mind is slowly yet surely being adduced from the greatest experimental anatomists of the age. The following extract from a work of Dr. David Ferrier is quoted in support of my position on the contributory power of the viscera to mental manifestations. He observes:—

Whether the various viscera are represented in the cerebral hemispheres has not been experimentally ascertained. It is not, however, improbable, and the ancient localization of certain emotions in certain viscera, though crude, is not without some foundation in positive physio-psychological fact. Morbid states of the viscera or of the centres of organic sensation in reciprocal action and reaction may give rise to hypochondriasis or melancholia.†

Again, he remarks:—

We have every reason for believing that there is in company with all our mental processes an unbroken *material* succession from the ingress of a sensation to the outgoing responses in action. The *mental succession is*

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* Body and Mind, p. 89. [Italics the author's.]

† Function of the Brain, David Ferrier, M.D., p. 26.

not for an instant dissevered from a physical succession. The only supposition is that mental and physical proceed together as undivided twins.[*]

Other eminent observers, as Sir Charles Bell expressed it, are beginning to have "a firm yet dim conviction that the mind is not confined either to the brain or nervous system." Mr. George Henry Lewes' remarks on this point are not without interest. He observes:—

> I feel myself justified, therefore, in considering that ideation is the form of cerebral sensibility which is determined by connection with the ganglia of visceral sensation. It was formerly believed that the heart, the liver, and the spleen were seats of the passions. Popular language still preserves this notion, but Bichat was the last great anatomist who countenanced the doctrine. Since that doctrine has fallen into discredit there has been an undue neglect of the important fact which it endeavored to explain, viz., the immediate influence exercised over the emotions by the condition of the viscera, and the influence exercised over the viscera by the state of the emotions; both the ancient and modern are reconciled in the view I have put forth, which makes the *viscera the main source of emotions*, just as the organs of sense are the main source of ideas.[†]

I shall bring forward, as I proceed, the strongest proof of my position, that mind is to be found in the action of the organs of the several viscera and other functions, as well as in the nervous ganglia of the entire organism. It is true that no scientist has, so far as I am aware, brought forward the main principles which I here present. It remains for me to elaborate and carry to a finality my theories in my own particular branch of science. At the same time, it is a very great recommendation to my theories that they receive the support (in any degree, however remote) of the best and most advanced thinkers. Although the task of *connecting* the proof has fallen to me, it is both a task and a pleasure. It is made the easier, for the reason that I have the whole world of living animal and human organisms from which to derive my proofs.

We will now commence our investigations in the chemical or primitive system of the body and analyze the signs in the chin.

THE KIDNEY SYSTEM.

Analysis of Conscientiousness.—The kidney system creates or evolves *Conscientiousness*, *Integrity*, *Morality*. The *width* of the chin, caused by width of its *bony structure*, denotes Conscientiousness, as well as the strength and action of the kidney system. A narrow, retreating chin shows that the kidneys are narrow and small; a broad, bony chin (if the eyes are well colored) announces strong, large, or broad kidneys and relative breadth at the "small of the back," as it is termed. By the kidney system I mean not only the kidneys, but the several ducts and the bladder, as well as *all* the apparatus included in the performance of its functions; that is to say, all of the *fluid circulation* of the body concerned in the excreting of the *fluid waste* and the fluid upbuilding of the entire body. Taking into consideration the fact that 75 per cent. of the human organism is composed of water, the importance of water as a fluid solvent of all the materials taken into the system, as well as its very important office as the carrier of all the materials through the veins and absorbent and secretory tubes to the several tissues involved in the human organism, it must be apparent that upon the power and activity of the fluid and kidney systems man depends very largely for the *purity* and *integrity* of his physical powers, hence of his moral nature. If the kidney system is not capable of excreting the waste of the fluid circulation, it is thrown back or retained in the body, thus destroying the soundness and integrity of the whole organism; or, if the fluid system fail, as a common carrier, to convey the particles of lime and other materials needed in sustaining the power of the bony system; or, if the fluid circulation is incompetent to perform its mission in conveying other materials in their right proportion to their several destinations, the organism *will suffer from an unbalanced condition in its physical as well as in its moral development.* We cannot separate cause from effect; one cannot be moral without the physical powers first possess purity, integrity, and equilibrium in their components and action. Some may object to this showing of the dependence of the moral powers on the physical functions, as antagonistic to Theology. Now, if we could exhibit morality without the use of the organs and members of the body, this theory would be untenable. If Theology cannot agree with the laws of God as shown through the laws of Nature, so much the worse for Theology.

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[*] Function of the Brain, David Ferrier, M.D., p. 256. [Italics the author's.]

[†] Physiology of Common Life, G. H. Lewes, p. 84.

Morality is related to the use of the members and organs of the body; we cannot be immoral without using them. *We can be neither moral nor immoral in thought alone.* It is by the improper use or diseased conditions of our organs and members that we can become immoral. Morality is not a mere sentiment; it is not a matter of belief or speculation, but a living, actual reality, related to the right use of our physical powers. Almost every individual will admit that certain persons *look more honest or moral* than certain others; also, that some are very sensual-looking. The investigation of their conduct often proves that their lives and their looks correspond. Now, what creates this correspondence and causes the difference between moral and immoral persons? Is it the nature of their surroundings alone? No; for, with equal opportunities and temptations, some are able to conduct themselves with more morality than others. Is it not, then, in inherited organisms? Is it not in certain combinations of organs, bones, blood, muscle, and tissue, so placed as to produce certain forms, which, by virtue of these inherited forms, the individual is able to be either moral or immoral? Is it possible for us to know how these moral or immoral qualities are produced, and are we not capable of understanding which forms are most inclined to morality or immorality? I claim that all this can be known; and not only that all these qualities can be detected, but that, by judicious mingling of forms and systems, vices can be bred out of and virtues bred into the human family, just as it is done with the lower animals. What we need to know is, first, the meanings of the several organ systems and forms of the body; and then a wise and judicious combination of these principles, added to hygienic diet and health conditions, and moral and intellectual surroundings.

Since the theological and metaphysical method of investigating the bases of mind have given way to the physiological and demonstrable method, it is shown by our best thinkers,—those who have had experience with the defective classes of mankind,—that morality, as well as immorality, is a matter of physiological organization. The following, from the pen of Dr. Henry Maudsley, discloses to us that he comprehends the intimate connection between defective organisms and lack of moral sense. He observes:—

> The observations of intelligent prison surgeons are tending more and more to prove that a considerable proportion of criminals are weak-minded or epileptic, or come of families in which insanity or some other neurosis exists. Mr. Thompson, surgeon to the general prison of Scotland, has gone so far, recently, as to express his conviction that the principal business of prison surgeons must always be with *mental* defects or disease. He holds "that there is among prisoners a distinct and incurable class marked by peculiar low physical and mental characteristics; that crime is hereditary in the families of criminals belonging to this class; that this hereditary crime is a *disorder of mind* belonging to this class; and that this hereditary crime is a disorder of mind having close relations of nature and descent to epilepsy, dipsomania, insanity, and other forms of degeneracy. Such criminals are really *morbid* varieties, and often exhibit marks of physical degeneracy,—*spinal deformities*, *stammering*, *imperfect organs of speech*, *club-foot*, *cleft-palate*, *hare-lip*, *deafness*, *paralysis*, *epilepsy*, *and scrofula*." *

Here we have the evidence of one who has had great opportunities to study large numbers of defective and criminal persons, and we find as a result that in a large majority of instances the lack of moral sense is accompanied with some *organic* defect. How essential, then, that bodily equilibrium and visceral integrity should be regarded as of as high importance as the inculcation of moral precepts. If the persons who had charge of our defective classes, such as habitual criminals,. the insane, and the idiotic, understood physiognomy as a science, very great results to humanity would ensue. That the time will come when we shall all be judged and understood by our faces is not, I am convinced, far distant, and herein lies the opportunity for race-improvement by design; for, when men have learned to recognize the criminal or insane neuroses, as exhibited in the face, they will undoubtedly refrain from intermarrying with those who would be sure to curse instead of bless posterity by reproducing their own weaknesses.

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* **Body and Mind, H. Maudsley, M.D., p. 61.**

The more we investigate the effect of intoxicating drinks upon the system, and observe the utter absence of moral sense and self-control which follows their excessive and habitual use, the better we shall comprehend the terrible devastation and moral degradation which a diseased condition of the kidney system induces, for it is this system which receives the brunt of the shock in cases of long-continued inebriety. It is true that in these cases the heart, the liver, and the stomach are all involved in the general depreciation of moral and mental vigor; but the kidneys, being the largest excretory organs of the body, and those which, by excreting the fluid waste of the body, are the most important organs in the system, receive a larger share of labor and of the impurities of the organism engendered by excesses and the consumption of poisonous liquids. The faces of habitual criminals, or those in society who are morally weak, may be known by narrowness of chin, and many intelligent persons who have inherited apparently good intellects will often become criminal through a lack of conscientiousness and firmness, while at the same time they are intellectually conscious of the enormity and consequent sad results of their conduct. But, as Dr. Maudsley justly remarks, "some go criminal as others go insane—because they cannot help it." Added to the narrowness of the chin, we often observe in the same individual shortness of the chin also. Where these two appearances are combined, a lack of firmness, endurance, patience, and perseverance, a disposition to fly from one pursuit to another, will be present, and in this case it is almost impossible to make the subject successful in any department of learning or trade. These people remind one of the apes, whose chins (if they can be said to have chins) resemble theirs, and, as all know, these creatures cannot be trained to useful labor, notwithstanding their very keen, quick observation and agile movements. Indeed, with the deprivation of the moral sense, it often happens that there is, as a compensation, an *acute* and *cunning* intellect.

No degree of moral *sentiment* will compensate one for absence of a true, *inherent moral faculty.* It cannot be comprehended even by those who are thus deficient. It behooves us, therefore, if we would be truly religious, truly conscientious, to eat and drink and order our habits in such manner as shall lead to a fine and strong development of the kidney system. All peppers, spices, intoxicating liquors, tea, and coffee should be avoided, and medicated food, such as contains drugs, spices, soda, saleratus, etc., should be eschewed. A man with weak or defectively organized kidneys cannot expect to live to old age. It is possible to exist many years with disorders of other organs, but the faces of all aged persons that I have ever seen have the sign for the kidneys well defined. It is right to inculcate moral sentiments, honesty, honorable motives, and fidelity to principle and truth. These ideas must be taught and kept constantly in the minds of old and young, but a strict regard to physiological truth and principles is *equally binding*, if we would save either soul or body here or hereafter.

There are so many fine gradations of each faculty discoverable in different persons that it is quite impossible to describe them all. They must be comprehended by the observer through his acquaintance with the laws and principles of scientific physiognomy. Conscientiousness, for example, has as many different modes of manifestation and degrees of power as there are persons. So has love, and, indeed, it is the same with every mental faculty. But if we wish to consider integrity in its largest sense we must analyze it, and discover, if possible, its constituents. Many persons have the faculty of speaking the truth, and who are, at the same time, quite lax in regard to the payment of their just dues, and others act *vice versâ.* Ordinary observers content themselves with calling such persons "inconsistent," but the scientific physiognomist, aided by the light of its principles, understands that these persons are true to the law of their organization; that they are entirely consistent with their physiological and anatomical combination and proportions. There is an integrity of the bony system and an integrity of the muscular system, as well as of the glandular, the nervous, the thoracic, and the brain systems. When an individual inherits all these systems in about equal degrees of power, and they are of a high quality, then we have a man of *integrity* in its highest sense. A man may possess an integrity of the bony system, and he will be naturally and spontaneously inclined to morality, without fear or hope of reward; that is to say, he will be *honest* in his dealings, paying his debts, and can be always relied on for honesty, and also may exhibit considerable moral heroism. At the same time he may not evince integrity of the muscular system, and this will cause him to be dishonest in his treatment of the opposite sex, or he may be untruthful and unreliable in his statements. This kind of character is often met with. The organs of generation and of speech are almost entirely within the action of the muscular system; hence, any lack of integrity in or want of balance of this system would lead directly to irregularities of the sexual nature, or of erratic action of the speaking apparatus, and untruthfulness or deception would be the result.

An undeveloped or enfeebled condition of the glandular system exhibits its action in various ways. Color-blindness, or lack of integrity of the sight, is one method of manifesting its deficient organization. Color-blindness is due to a lack of supply of the coloring pigments and defective arterial circulation. When the glands fail to create a due amount of coloring matter for the general circulation, the organism does not receive its normal supply of coloring matter with which to supply and replenish the pigments, which assist not only the organs of sight and the ganglia of the other sense-organs, but those of smell and hearing, etc. One of the most significant circumstances observed in regard to color is that those who have the most color in their hair, eyes, and complexion are the best adapted to judge of colors. Yet we often observe those who are color-blind in a certain degree who have considerable color, yet *clearness* of the skin is lacking, and this one circumstance prevents the individual from having a decidedly good and strong color-sense. Here we note that *integrity* of the general circulation has failed, and thus the individual is lacking in this form of integrity or conscientiousness; for conscientiousness is not a sentiment merely, but is, as you will doubtless become convinced, a matter of physiological organization, and dependent greatly upon the manner in which we live and upon our daily habits of eating and breathing. There are numerous laws which are called into action to produce a conscientious condition of the body. If a certain mechanical construction of the eye is defective, cross-eyes (strabismus) is the result. Other defects produce short-sightedness and squinting. Here, then, is a departure from *trueness* and conscientiousness. These persons are, in the degree that they are defective, so much less capable of correct and *true* aetion of their visual system,—another form of immorality or *untrueness*.

Where the organs of hearing are mechanically defective the individual is incapable of the same degree of accuracy in regard to sound and speech as where the auditory system is perfect. Another sort of immorality is induced by this defect.

We might continue this form of analysis of the faculty of Conscientiousness indefinitely, but sufficient is here noted to teach the fact that morality, integrity, conscientiousness, honor, and honesty in every department of the body is dependent mainly upon an equilibrated or *honest* condition of the several organ systems within the human organism.

Analysis of Firmness.—Firmness is indicated by length downward and forward of the ramus, or lower jaw-bone; it shows power in the individual to resist disease by the exercise of a firm and persevering determination to recover, as well as the power to persevere in a course calculated to restore health. This faculty being related to the bony system denotes that there is organic power,—the power which the *conscientious nature* of bone yields,—and this is useful in combating diseased conditions. The face of Dr. Tanner (who once undertook the task of fasting forty days and succeeded) exhibits this faculty in a remarkable degree. His firmness and perseverance contributed materially to his success, while the superior bony structure which he possesses shows that the kidney system is uncommonly well developed. These two faculties—Conscientiousness and Firmness—will carry one through not only great physical but also great moral disorders, and enable their possessors to stand upon principle against a world of opposition. Had Dr. Tanner exhibited equal power in other parts of his mind and body, but without Firmness, he could not have accomplished his self-imposed task.

The physiognomies of all long-lived persons have the sign for Firmness remarkably well developed. This faculty, physiologically developed, gives the power to *endure* and also to *resist* all that would tend to imperil health and life, and even after health is assailed the organic power which inheres in a good bony system often enables the individual to withstand the attack of disease and come off conqueror.

The northern tribes of North American aborigines have this faculty in excess; hence their indomitable will and power to resist diseases and recover from desperate wounds.

Among the civilized nations I have never known a man of eminent character to be greatly deficient in Firmness, and most men who excel in any great enterprise show the sign for Firmness well defined; even great criminals, especially those who have committed crimes requiring great endurance, hardship, and persistency, exhibit this trait in their physiognomies. Its location is worthy our attention, being close to Conscientiousness; it assists moral effort by its stable, firm fixedness of purpose. Firmness has been formed by a fine development of bone; its sign is found in the elongation of the lower jaw-bone, and this bone, as a logical and physiological sequence, has been formed by the kidney and fluid system of the body doing its work in a thorough and capable manner; upbuilding the bones by means of the lime in the system which has been conveyed in its fluid state to its several destinations, and also by the excretory action of the kidneys in excreting noxious and useless elements. An excess of bone, like all unbalanced systems, induces disease as well as perversions of character, which are shown in the mulish and stupid animal and person whose bones are too large and heavy for the other systems to harmonize with and give them proportionate action. Too much bone leaves its possessor stupid, obtuse, inert,—in other words, dull and lazy. The ass is a specimen of what a preponderance of bone will do in the way of stupidity and obstinacy. In the human family we shall find many who are real sufferers by too heavy and too large bones; not only do they suffer from inertia or laziness, but a too great deposition of lime in the system induces constitutional disorders, such as rheumatism, gout, enlargement of the joints, and ossification, in some instances, of the fingers; also, a decided tendency to liver complaints and melancholy as age advances. Those who doubt that mind and morals are dependent upon physiological formation for the illustration of their varied modes of action are referred to an examination of the bony system and its associated characteristics in all their various modifications for evidence of what is herein stated.

The cultivation of Firmness, where it is defective, should be attempted in a religious spirit, with the view of improving upon ancestral inheritances and for the sake of advancing character to a balanced condition, to the end that morality may be enhanced, success in business assured, and health and longevity made possible.

FACULTIES DERIVED FROM THE INTESTINAL SYSTEM.

Digestion or Alimentiveness.—Digestion has its principal sign in the face located on either side of the mouth, and is known by fullness of the lower part of the cheek. This is the most prominent sign, in infancy, of good assimilative and nutritive powers. It is true that the signs of good digestion are to be found all over the person, and the bones will be well covered with adipose tissue where this function is vigorous. There is a seeming want of inductive ratiocination on the part of the majority of persons, who, while they recognize this sign for one physical function in the face,

—viz., that of good digestive powers,—look no farther for the *signs* of the action of the *other visceral* organs, such as the liver, the kidneys, the heart, the lungs, the glands, the stomach, etc. Now, if Nature has placed the sign for *one* function in the face, it is logical and natural to infer that *others* are also represented there. While this function (digestion) is the sustainer of all the mental faculties—that is to say, gives the nutrition essential to their existence and activity—the kidney system keeps all in purity and soundness by its excretory qualities alone. The fact that the fluid waste of the body exceeds the solid waste is undeniable. By actual demonstration it has been proved that the fluid waste from the kidneys and sweat-glands is more, by several pounds' weight in twenty-four hours, than is the waste excreted from the intestinal system. Writers on physiology are unable to account for the origin of the sensation of hunger. They do not seem to be able to discover how the individual becomes conscious of the need of the body for more nourishment; that is to say, how the stomach is made to feel hunger.

Dr. C. Cutter, a writer of physiology, observes:—

> It has been inferred by some writers on physiology that the glands which supply the gastric fluid, by a species of instinctive intelligence, would only secrete enough fluid to convert into chyme the aliment needed to supply the real wants of the system.

What are the reasons for this inference? There is no evidence that the gastric glands possess instinctive intelligence, and can there be a reason adduced why they may not be stimulated to extra functional action as well as other organs, and why they may not also be influenced by habit? Precisely what Dr. Cutter means by "instinctive intelligence" he does not explain; and until he gives his explanation we can find no solution to the question as he propounds it. How can the human system know when it requires nutriment? My theory has been stated before, and I should answer, from its mind, or consciousness; for, as mind inheres in every part of the body, so the branches and filaments of nerves connected with the gastric glands convey to the brain these wants of the individual. The pneumogastric nerve ramifies upon the stomach, and this nerve becomes cognizant of the wants of the organ over which it presides, so to speak, and, communicating with the nerves of the other parts of the organism involved in the process of digestion, all combined make demand for more nutrition and prepare the several organs and glands for its reception. This theory is clearly proved by the fact that where the brain is functionally or structurally diseased it is often incapable of taking cognizance of the conditions and appeals of these parts, and insane persons are often compelled by force to partake of food, as they would starve to death if left to their own care, not being notified by the stomach of the needs of the body—the consequence of the diseased condition of the brain. The case of the wounded sailor, noted by Sir Astley Cooper, illustrates this theory, and shows that all the vegetative processes of the body can go on without the brain being *conscious* of the action of the organs of respiration, secretion, excretion, or growth.

In Sir Astley Cooper's "Lectures on Surgery," the following singular case is noted: At Gibraltar, a sailor fell from the yard-arm of a ship, and was taken up unconscious. He remained some months in the hospital there, in a *perfectly insensible condition.* He was then conveyed to England and placed in a hospital at Deptford, where Sir Astley Cooper, the eminent surgeon, visited him. He was informed by the attending surgeon that the sailor had been insensible for many months. He said:—

> He lies on his back with a few signs of life; he breathes; indeed, has a pulse, and some motion in his fingers; but in all other respects he is deprived of all powers of mind, volition, or sensation. *If he wanted food, he had the power of moving the lips and tongue, and this action of his mouth was the signal to his attendants for supplying this want.**

This last sentence corroborates my theory of the mental power of the nerves of the digestive apparatus. It is here proved that *consciousness* was suspended for many months; yet the organs of digestion had power to manifest *intelligence* in the manner indicated above. This man lay in this condition for thirteen months, when Sir Astley Cooper trephined him; that is to say, raised the depressed portion of the bone from off the brain, upon which it was pressing. Four hours afterward he was able to sit up in bed and converse, and four days after he was restored to all the faculties of his mind and functions of body. He said that he remembered nothing from the moment that he fell; thus proving that the faculty of Memory of Events was entirely suspended. His reason, we see, was dormant; all power over the muscles, with the exception of a slight motion of the fingers and tongue and lips, was gone; yet this man lived, breathed, secreted the juices of the stomach, liver, and intestines; excreted from the kidneys and bowels; but was unable to manifest intelligence, except that sort which the digestive apparatus was able to make apparent.

This peculiar diseased condition of the sailor above instanced led to the important discovery that consciousness, or mind, existed within the body, as it does in those animals which are destitute of a brain; it shows also that, while *thought* is manufactured in the brain, *consciousness* and *intelligence* are properties of nerve and ganglionic masses, and the nerves connected with the glandular system of digestion were able in this instance to make *the man's wants* apparent without the *direct co-operation* of either brains for thought, or muscles for speech. Of the method of studying mind through observation of morbid or diseased conditions, Dr. Maudsley remarks thus:—

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* Quoted from "A Physiology for Schools," C. Cutter, M.D., p. 30.

> It is probable that an exact observation of the mental effects of morbid states of the different organs would help the inquiry into the *feelings and desires of the mind which owe their origin to particular organs.* What are the psychological features of disease of the heart, disease of the lungs, disease of the liver? They are unquestionably different in each case.*

Elsewhere the same writer observes:—

> Let me now say a few words concerning the abdominal organs. *No one will call in question that the states of their functions do exert a positive influence on our states of mind.* I have met with one case of severe melancholia of long standing which was distinctly cured by the expulsion of a tape-worm, and it appears to be tolerably certain that hypochondriacal insanity is in some instances connected with, if not caused by, a perverted sensation proceeding from an internal organ, most often abdominal. *In health we are not conscious of the impressions which these organs make upon the brain,* albeit they assuredly send their unperceived contributions to the stream of energies of which consciousness is the *sum* and *outcome;* but when a disordered organ sends a morbid impression to the brain it no longer does its work there in silence and self-suppression, but asserts itself in an unwonted affection of consciousness. Not long since I saw a patient who believed that he had a man in his belly; when his bowels were constipated the delusion became active; he made desperate efforts by vomiting to get rid of his tormentor, and was then surly, morose, and dangerous; but when his bowels had been relieved the delusion subsided into the background and he was good-tempered and industrious.†

The *reciprocal* action of visceral organs upon the brain, and of the brain upon interior organs, has long been investigated in asylums for the insane; but for want of a system to verify observations not much progress in the intelligent treatment of these cases has been made. A correct understanding of the physiognomy will assist materially in the recovery of these patients where disorder is caused by diseased states of the abdominal organs; for the face does unfold the signs for all these organs, and will reveal at a glance which are the weaker, and consequently those which are most likely to be assailed with disease, as well as those which are sufficiently strong to assist in repelling disease.

* Body and Mind, Henry Maudsley, M.D., p. 86.
† *Ibid.*, pp. 83, 84.

FACULTIES DERIVED FROM THE GLANDULAR SYSTEM.

Benevolence.—Benevolence, shown by the *full*, *rolling*, *moist under lip*, indicates a strong and active condition of the glandular system, both of the secretory and absorbent systems. Whenever this feature of the physiognomy is well developed, most of the secreting glands—viz., the lachrymal, salivary, and mammary glands, pancreas, liver, prostate, and testes—will be found to coincide in their vigor and normal action with the size and moisture of the under lip. The absorbent glands also find their illustration in the same feature. The absorbents are divided into two classes—the lacteals and the lymphatics.

> The function of absorption is indispensable to nutrition; its agents are the numerous minute vessels named the "absorbents" and the small, reddish bodies through which these vessels pass the "absorbent or conglobate lymphatic glands." The lacteals are found only in the abdomen. Their office is to convey the chyle, which they absorb (after the food has been digested in the intestines), to the thoracic duct, whence it is sent into the general circulation to repair the waste and renew the tissues. The lymphatics, on the contrary, are distributed through all portions of the body. Their use is to take up by absorption all waste or useless matters, and convey such matters which have become solvent either to the general circulation, there to be discharged from the system by some of the excretory organs, or used again in the economy of the human organism.*

I have inserted this slight description of the office of the glandular system, in order that those of my readers who are not well read in physiology and anatomy may understand the philosophy of the action of these glands and the appropriateness of their signs in the face. Now, the glands in the lower lip, being more numerous and more prominent than in any other part of the face, would seem to point to that feature as the facial index of the glandular power of the entire system; added to the fact that the absorbing glands are directly related to the function of digestion, and whenever a prominent sign of any function or faculty is observed in the face, all minor signs are always to be found in juxtaposition with it, just as in the body all organs which assist a similar function or class of functions are placed in positions of sufficient contiguity to facilitate their mutual action. If the entire glandular system is well developed, we must infer that the absorbents will take up sufficient material to supply the necessities of the organism by creating new tissues, and that the excretory glands will perform the task of carrying from the system all effete or waste matter. Hence, a good development of this system shows its power to throw off diseases as well as to resist the approach of those which affect the glands more particularly. Again, the lip is a facial indicator of the intestinal system, and it is an organ of taste. Thus you will observe that Benevolence in its developed state assists in protecting the body, as well as gives the power and desire to assist others. We cannot give if we are in an impoverished condition, and cannot warm toward others if we are deficient in what creates animal heat. A *thin, dry under lip* indicates the reverse of Benevolence, and shows a constricted or impoverished condition of the glandular system, as well as a stingy, close-fisted person.

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*Practical Anatomy, Robert Harrison, M.D., p. 360.

Physicians have long known the value of the lips as indicators of pathological and morbid states of the body, yet have never understood their use as an exponent of physiological and mental conditions and powers. In certain fevers the lower lip assumes a dry appearance, at other times a livid or pale hue, and denotes either inflammatory or impoverished conditions of the system. At times the lips turn dark and crack, and are the seat of other disorders consequent on diseased states of remote parts of the organism or of general disturbances; as in fevers, etc. In many cases where the lips are full and the cheeks are thin, one set of glands are predominant over others. Thin cheeks indicate a lack of vigor in the glands of the abdomen, and consequently the faculties of Friendship and Sociality are measurably lacking; but in such persons it is usual to find the lips full, more especially the lower one. This appearance reveals the fact that the other glands are more perfectly and more strongly developed, as, for example, the mammary in women and the prostate and testes in men. In such persons the lack of Friendship is compensated by an increased development of "Love of Young" and conjugal love. This love does not extend to friends, but is exclusively conjugal or sexual, and distinct from Friendship entirely. And thus there is ever this apparent attempt on the part of Nature to balance or compensate in some way the defects of certain parts of the organism mentally and physically. A man without love for friends and deficient in love for the opposite sex would be an anomaly. Many misers who have avoided the haunts of men and showed no friendly associative feelings whatever, have shown love for woman by desultory attachments to those of the opposite sex, and some slight feeling for their offspring, the result of such connections. The well-known John Elwes, once M.P. for Berkshire, England, was a miser of this description, and when he died bequeathed to his two illegitimate children £500,000. This person's portrait discloses an under lip rather more full and rounding than that of most misers; his upper lip also shows an average amount of Amativeness, but Friendship and Sociality are altogether wanting in his countenance.

Economy.—The faculty for economizing and making the most of one's materials is a noble and useful quality. Saving is neither meanness nor stinginess, as many seem to think, but is the result in most cases of a good development of conscientiousness; for this trait in combination with firmness is observed well defined in the faces of all who possess the saving faculty as a talent. Now, in order to understand the faculty of economy we must analyze its origin and action physiologically before we can comprehend its mental and moral aspects. In the first place, we must not confound saving with acquiring. In many cases the ability to save is the compensation for a *lack* of *acquisition.* Many persons are not endowed by Nature with a faculty for gaining much, and so the character, in order to sustain itself, has often the compensating faculty of economy. Yet many individuals possessed of good sound intellects, well balanced both as regards reason and practicality, and with good powers for acquisition, save and store up for themselves, as well as for others. Economy is not a faculty possessed by the defective alone, but in some is the outgrowth of a combination of reason, conscientiousness, benevolence and firmness. In highly developed characters, those possessed of power and principle, are found the faculties which lie at the base of their economy. Economy is derived from the normal action of the glands primarily; for in all those who are best adapted to *store* up and accumulate *on a large scale* (while at the same time using with sense their possessions), we find the storing-up capacity within their own systems. The glands create the juices of the body and accumulate a fund of tissue, which serve to keep the body in a state of vigor and usefulness. Economy also results from balanced condition of all the bodily or visceral organs, induced by the vigor and power which well-nourished glands have given to the organism. This creates such vigor of mind and breadth of judgment as to produce that quality of conservativeness which enables one to amass a large fortune, which by exercise of the same faculties may be used for the good of large numbers, as was the case with the fortune which Peter Cooper accumulated and which will be used as a fund in perpetuity for the education of the youth of New York. And herein lies another proof and demonstration of the theory that men of broad build and large, broad noses possess greater breadth of judgment than those of opposite formation.

The saving faculty is often exhibited by persons possessed of little power to acquire on a large scale. In their cases it enables them to balance their income with their expenditures, and often such characters will possess in the end more than those with superior powers of acquisition.

Every faculty is primarily indebted for its vigor to the amount of nutriment furnished to the blood from the lymphatic or absorbent system; for the blood is the common carrier of all nutritious materials which rebuild and replenish all the tissues whatsoever, and every faculty of mind was once in the blood. The local sign for Economy is situated in the vegetative division of the face, and receives its power directly from glandular action and development. The law in scientific physiognomy in regard to localizing the facial signs is that each sign will be found situated within the system from which it derives its support. For example, the local sign for Constructiveness is located on the side of the nose in the muscular formation. Conscientiousness is known by the width of the bony structure of the chin. Language is dependent upon muscle for its power, and all its signs are within the muscular system, viz., in the ear, the eye, the lips, the larynx, etc.

The economizing spirit manifests itself in a great variety of ways. Some will be saving of money, and not of property or goods; others will be saving of materials, yet give freely of personal service. One of the most lavish persons I ever observed gave liberally of his money, but would make no personal effort for friends, hardly bringing himself to speak up for their benefit when he might easily have done so. Every phase and each degree of Economy may be ascertained by a reference to the physiognomy and physiology of the individual. The desire to save is usually quite wanting in childhood. In such cases it should be cultivated, and if it is weak the child should be taught in all ways that it is an essential part of a well-balanced character; but the training in this direction must be systematic and persistent.

The economical traits of character are rather weak in Americans, and should be more cultivated by them. Economy is not miserliness, neither is it meanness; only the economist can be generous, for the spendthrift having no stores has nothing to use and nothing to give in time of need. Economy is a noble trait, for it requires both intellectual power to administer upon one's possessions, and strength of mind, of will, and of conscience to store up against the day of want, sickness and old age, as well as for the demands of benevolence. Indeed, in the faces of all in whom I have observed the saving and economical faculty the signs for Firmness and Conscientiousness were very noticeable. Storing up for selfish gratification is seldom practiced. Excessively selfish characters lack reason, hence are incapable of making a sufficiently wise use of their acquisitions as to save up against a day of need, but spend as they go, and usually for *their own wants and appetites.* Benjamin Franklin was noted equally for his generosity and for his economy. His face exhibits the local signs for several sorts of economy, for there are several phases, as before mentioned.

The grade of intellectual development possessed by an individual will denote the *sort* of economy which he is capable of practicing or of understanding. Some devote their powers to Political Economy, and put their ideas before the world for the better protection of the people, or for a more equitable division of the products of labor; while others are only able to deal with the small economies of a modest home. The conserving spirit will manifest itself in each individual differently, and where it is most decided will make its presence felt. A little of this trait in public affairs would result in a more just and equitable condition in the finances of our country, but as long as children are not trained to comprehend the value of property and to use it economically and with justice, just so long shall we have the loose and dishonest methods of financial management at present in vogue, both in municipal, State, and national governments. "A fountain cannot rise higher than its source." Men brought up without the principles of Economy well grounded in their youth cannot commence the practice in manhood with hope of succeeding.

The phrase "Economy of Nature" is often used, and we would think sometimes in looking over the vast stores of natural resources that Nature was so prolific that there was no need of economizing. Yet Nature is lavish by reason of her Economy. It is only the economical who have anything with which to be lavish. The economies and conservation practiced by Nature in every human organism in the world is a subject for deep thought and investigation; yet this economy is nowhere more apparent than in those who are the most richly endowed with physical and mental gifts.

Hospitality.—Hospitality and Sociality are two phases of the same faculty, and both derive their support from the glandular system. The sign for this faculty adjoins the signs for Digestion and Friendship, and is in the immediate neighborhood of other glandular signs. Friendship and Hospitality are very nearly allied in character, for one phase of friendship exhibits hospitality and sociality, while other phases of friendship are manifested in other ways, depending on the faculties in combination.

Hospitality, like Friendship, presents two aspects, the selfish and the unselfish. As the action of the glands is dual, they being both secretory and excretory, it is natural that it should exhibit its accompanying faculty or sentiment in a dual manner. The glands contribute juices that not only assist in building up a warm and strong circulation, which tends to personal health and enjoyment. Friendship enables us to warm toward others and gives the desire for association at table, and this in order to enhance our own enjoyment; not for charity, for the sake of giving a good meal to a hungry person, but for the *selfish enjoyment* which we derive from eating and talking with others. Fine and keen analysis is needed to discriminate the action of faculties which by Nature and location are closely allied; as, for example, Hospitality and Friendship, or Benevolence and Friendship. Their expression and action in many phases are quite similar. Yet analysis will prove their separate and distinct action. Hospitality in its primary aspect is related to Digestion, to eating and drinking; hence, the table is its field of action, and this is where it exhibits its highest expression and shows that it proceeds from that primary associative, gregarious instinct, which is observed in all gregarious animals who love to feed in company with each other.

In a more refined and cultivated sense, assisted by other faculties, it shows itself in other ways. In conjunction with Friendship it exhibits a range of activity quite different from the mere animal enjoyment of eating and drinking. It will be greatly influenced by other traits, which are stronger, and its action will be modified by them. The group of faculties in which its local sign is situated derives its support from similar organic sources, and this grouping of faculties and functions throughout the body and face is not the least remarkable circumstance in relation to it Mark the company in which it is found: Friendship adjoins it on its upper side, Digestion is near its lower side, while Approbativeness flatters and praises its efforts on another side, and Mirthfulness, Love of Home, Patriotism, Economy, and Love of Young are near neighbors. These are all derived from the action of the glands, and are located in the face, as are their organs in the body, in such close contiguity as to assist mutual action and reveal their near relationship. All evidence points to their glandular source. Nearly all faculties have a primitive derivation, and exhibit a primitive mode of expression; but cultivation by education and imitation gives variety and refinement to all faculties, until in many cases the primary meaning and expression of a function and faculty is lost sight of in the advanced refinement and æsthetic mode of its expression. I recall to mind the circumstance of a gentleman who was quite indignant at my statement that he derived his capacity for friendliness from his intestinal system; but after I showed him the face of a celebrated miser and explained the action of Friendship, he became quite reconciled to the idea that friendly sentiment could be derived from a physical base, and was not altogether the product of the brain or mind, as he had been taught. Why the products of the brain should seem more honorable than the product of any other organ I am at a loss to understand, for the brain is as much an animal organ as is the heart or liver, and the mind is certainly an animal organism. What we should endeavor to do is to get at the *fundamental* principles of the body, and then adopt those methods of living that are in accord with Nature's laws. For in this way only can we make all functions and faculties seem alike honorable.

Love of Home.—The love of home, like all the primitive or cultivated traits, is exhibited in varying degrees of power and intensity in different persons and races. Some races, the Swiss mountaineers, for example, possess a most ardent love for their mountain heights, and when removed from them often suffer extremly with nostalgia, or home-sickness, and some have died in consequence of their protracted separation from home.

This faculty is a primitive animal faculty, and is quite developed in nest-building in birds, and such animals as the beaver, etc., who make permanent structures for habitation, and in such animals it is more strongly developed than in many wandering, savage, and barbarous tribes who have no permanent, settled abode. Among the civilized races are often found individuals who are natural wanderers, to whom a settled home is unendurable for any length of time. Such persons make good pioneers, hunters, trappers, navigators, founders of towns, and leaders of enterprises which involve travelling. The love of home is more prevalent and stronger in woman than in man, for the conservation of the race demands that the mother shall be a home-keeper, and thus the harmony of Nature is exhibited by creating in the female a more stable attachment to the home. Yet some men are as ardently attached to home as any woman can be. I have met a lady who changes her abode, on an average, six times a year, and shifts the position of her furniture every week. But this is a most uncommon manifestation of absence of this trait.

The local sign for Love of Home is known by fullness of the soft part of the chin just below the sign for Benevolence and adjoining Love of Country. It is derived from the glandular system, as are most of the faculties whose local signs are in this vicinity, for nearly all the signs here represent primitive faculties,—those common to man and animals. The analysis of character must be conducted in a spirit of candor, and without any bias, prejudice, or preconceived ideas of the action of faculties, else no profit can be derived from it. Now, Love of Home is a trait difficult of analysis by the ordinary observer. To know how much of this sentiment is natural or how much is acquired, or to know whether those who stick close to the home do so from love of it, or whether it is the result of laziness, is a question for the keen observer to decide. Some persons remain in one abode or stay constantly at home because they are averse to making the efforts essential to change, while others exhibit a most decided *affection* for the home of their childhood, and if obliged to leave it never cease to regret it. The development of the gland below the lip shows more after childhood is passed, for the reason that the face never assumes its perfect form until the character has begun to strengthen and develop.

Patriotism.—The love of country is a faculty which varies in the degree of its manifestation quite as much as other faculties. At first presentation of the subject one would think that love of country must of necessity be a cultivated faculty and an attribute of highly developed persons only, inasmuch as it is exhibited in its highest power by orators, statesmen, and heroes. Without the assistance of physiognomy we might think that Patriotism belonged exclusively to men of this class, but we shall presently learn that this trait is general in all civilized races, and even among the uncivilized there are many who evince the most ardent love of their own land. The Esquimaux, for example, are quite unable to understand how any one can live in a country which has neither ice nor seal, and their attachment for their own land is most decided.

Many persons evince a most lively affection for their country, yet are not locative in their habits, and care little for a settled place of abode; yet these two faculties are in harmony and mutually assist each other. Their local signs in the face adjoin, and their origin is the same: both are derived from the action of the glands. The perfected phase of this trait, which is observed in statesmen and orators, is due to the general development and perfecting of this trait, assisted by other perfected powers in the individual thus exhibiting it.

There are men in private life who are unknown to history and to fame, whose love of country is not excelled by any statesman or hero. There are women, too, whose Patriotism is of the highest order. Such women are the mothers of patriot heroes. It is to be remarked that man has not a single mental faculty which is not equally the attribute of woman, and if woman is possessed of Patriotism it is intended that she should use it and transmit it, for every faculty is for use. Nothing is created by Nature without a purpose, and if it be argued that Love of Country was given to woman to transmit to her sons, I answer that it might have been given to the male only, and so transmitted as a masculine faculty exclusively without the intervention of the female.

The pages of history are brilliant with the deeds of patriotic heroines, and for one whose glorious deeds shine forth with noonday brilliancy there are thousands unknown to fame who have given up sons, fathers, and brothers, as well as risked their own lives and fortunes, in defense of their country; and the bead-roll of fame might be enriched with names whose deeds were as great as those of Joan of Arc, Charlotte Corday, or Madame Roland. This faculty is universal in the higher races, and is an animal or primitive faculty, and manifested, of course, in a limited and animal-like way by birds and beasts, who show most decided love for their own countries by pining and drooping when transported to countries unfavorable to their development. We must not argue that animals do not possess all of the faculties common to man because they do not express them as we do.

We shall do credit to our modesty if we refrain from setting ourselves up too high above those creatures in whose organisms reside the self-same traits of honesty, affection, maternal love, fidelity, industry, patience, love of home and of country which the highest human races possess, varying only in degree, not in kind. There is no doubt in my mind that the faculties which derive their sustenance from the action of the glands have each a separate source of supply; for example, the sentiment of Amativeness undoubtedly derives its power from the development of the glands belonging to the reproductive system, while the sentiment of Love of Young doubtless receives its sustenance from the mammary glands, which are largest in the female and only rudimentary in the male. This deficiency in the male would account for the superior strength of this sentiment in woman. Love of Home and of Country, as well as Approbativeness and Hospitality, I think must be derived from the intestinal glands. Their signs being in the neighborhood of the mouth, the principal organ of digestion, would indicate this to be the case.

FACULTIES DERIVED FROM THE REPRODUCTIVE SYSTEM.

Amativeness, or Love of the Sexes.—Amativeness and reproductive capacity are known by thickness, moisture, and redness of the *centre* of the *upper lip.* When very thick it also denotes glandular, muscular, and adipose development. This sign is better defined in the physiognomies of ancient races and in European faces than in American people. The function of reproduction is more active in the muscular or artistic classes than in all others, and those who have excelled in *creative art* will disclose the sign of this function and faculty well defined.

Its use primarily is for the propagation, creation, and perpetuation of the race. Its *moral significance* is of incalculable importance, for upon its *normal action* and natural and religious use the purity and welfare of the human family are dependent. It has no functional activity until the age of puberty, at which time important moral as well as physical changes occur. These changes are equivalent to the introduction of an entirely new faculty and function. Its full moral and physiological importance should be taught to youth, as ignorance of the true nature of its powers may lead to disastrous results, which may descend to the innocent for generations and lead to the utter demoralization of entire communities.

It has been the custom to regard the sexual system as something bad, and entirely animal in its influence upon the human mind; how much that is moral, beautiful, aspiring, social, and artistic proceeds from its normal development the reader will learn as we continue the science of physiognomy in these pages. I feel very much strengthened and fortified in my theories by much that Dr. Maudsley has written, and it is due my readers that my ideas, novel and unique as they may seem, should be supplemented by authority from those who have made a life-time study of mind in all its phases. In referring to the fact that conscience is a matter of physical organization, and also of the effect of depreciated sexual power in man, he remarks:—

> Of the moral character of eunuchs, all that we can briefly say is that in most cases *they have no moral character;* their minds are mutilated, like their bodies; with the deprivation of sexual feeling, they are deprived of all the *mental growth* and energy which it directly or remotely impairs. How much this is it would be hard to say; but were man deprived of the instinct of propagation, and of all that mentally springs from it, I doubt not that most of the *poetry and perhaps all of the moral feeling* would be cut out of his life.*

Comment on such evidence is wholly unnecessary. A reference to the faces of all persons who are most remarkable for moral or mental energy will prove the statements here made. All *well-sexed* men and women inspire more attention and exert more influence in their communities than do those who are more feebly endowed in this respect. I have never seen the portrait or face of any character remarkable for any mental or moral gift whose countenance and physique showed a lack of procreative power. The organs of reproduction are situated in the vegetative or chemical division of the body. The signs for Amativeness and the reproductive system are located in the vegetative division of the face. Now, although the organs of this system are muscular, the functional action of these systems, both in male and female, are chemical mainly, and assisted by the action of the glandular system. The growth of the embryo is a purely vegetative or chemical process, as much so as is the growth of a plant.

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* Body and Mind, H. Maudsley, M.D., p. 118.

The procreative act is the highest, holiest, as well as the most constructive and creative of which man is capable. It should be so taught and understood, and its high office comprehended thoroughly by those who enter matrimony.

Love of Young.—The local sign for love of children, pets, and animals is shown by the drooping of each side of the upper lip on either side of Amativeness, of which it is the natural and necessary companion. It forms a little "scallop" shape, which also assists in giving beauty to the mouth. Indeed, all well-developed mouths present this appearance more or less. Every function that is of use to the individual, and in a normal condition, sets a sign of beauty in the face, and those who learn to understand these signs and their signification will enjoy beauties which are denied to those ignorant of them.

In some subjects the outer sides of the lip project downward, almost overlapping the lower lip, just as is seen in dogs and cows and other animals whose love of offspring is intense. This sign is situated in the same place in all the higher animals. As I have stated elsewhere, when Nature gives the love or capacity for any pursuit she also gives some kind of power for its expression. Hence, when we observe this sign largely defined, we must infer that the ability to nourish or care for the young accompanies it. In some it betokens the physical development essential to the nourishment of offspring,—that is to say, good digestion and a suitable endowment of the glandular system. In others, in whom the brain system is predominant, it is associated with a mirthful-constructive talent, which manifests itself in the invention of stories, games, and amusements for the diversion of the young. Miss Louisa Alcott, the celebrated writer for children, exhibits this formation; all the signs of this kind of talent are prominent in her physiognomy.

This faculty is manifested in others by love of teaching and training young children and animals. No one can succeed in training dogs or horses who has not this faculty. All of the faculties and functions in the Vegetative or Chemical Division of the face are related in some degree to the glandular system. Now, as love of offspring is generally stronger in woman than in man, she is by Nature especially fitted to nourish the young, and the *sentiment* of Love of Young is created and sustained by the glandular system—by the mammary glands in particular. In man these glands are rudimental, hence his love for and desire to nourish and take care of the young is not so strong as in woman, although several well-authenticated cases are found in medical works of men who were able to nourish babes at their breasts. There are a few ducts and a small gland in the mammæ of men, it is true, and it is quite likely, under some abnormal conditions of the generative function in man, that the mammary glands have become enlarged, as is well known in cases where the testes have become atrophied.

This function and faculty, it will be observed, has its moral and intellectual use, as well as its physiological power. It is, therefore, highly important as being one of the greatest protectors of infant life and health and the conservator of posterity. The signs of the functions and faculties in the Chemical Division of the body are the most easily recognized by the ordinary observer; but more profound thought and reason are necessary to carry this law of correspondence of *functions with mental and moral faculties* to its ultimate conclusions.

Where there is large Love of Young, in combination with an average or good physical development of body, all of the facial glands will present an active appearance, exhibited by a healthy, red hue, and moist condition. The portion of the upper lip where the sign for Love of Young is located exhibits redness and moisture. The eyes will appear bright and moist, and all of the glands concerned in assimilation will be found active. The juices extracted from the nutriment are received into the lacteal glands, and supply the body with nourishment. The better the development of these glands, the greater is the degree of the "sentiments" of Love of Young, Mirthfulness, Approbativeness, Benevolence, and Sociality.

Many physiologists and modern writers on mind have observed the action and effect of hope, joy, fear, and rage upon the glandular system; but, singular as it may seem, have never in one instance, that I am aware of, connected the several glands with these various and *distinct* related emotions as their source or origin. Pathognomy ought to have enlightened them on this point, as insanity has opened the door so widely to the comprehension of the origin of mental powers. Yet, we find among writers such observations as the following, which I claim corroborate my position as to the *origin* of the emotions of Hope, Approbation, Benevolence, Love of Young, and Mirthfulness.

Says Dr Tuke:—

> As respects secretion, the emotions, by causing a larger amount of blood to be transmitted to a gland, increase *sensibility* and warmth, and so *stimulate its functions;* or they may directly excite the process by their influence on nerves supplying the glands.*

Mirthfulness.—The most prominent sign of this faculty is found at the outer corners of the mouth. It is shown firstly by a depression caused (when smiling) by the action of the two muscles named major and minor zygomaticus, which draw the mouth outward and upward, and, secondly, by glandular tissue or adipose material. The more these muscles are exercised, the more defined the impress of such activity is apparent, and hence it is that we often find dimples at this place. In those who are less playful and mirthful, small vertical wrinkles are seen. This sign adjoins the local sign for Love of Young, and by virtue of its character is connected naturally and necessarily with it. In some it causes the corners of the mouth to turn upward. Laurence Sterne, the celebrated humorous writer, had this peculiarity in a marked manner. It is adapted to the care and amusement of the young as well as to the recreation of adult life. It is in one sense creative or *constructive*, like Amativeness, as it assists in contriving and planning amusements for old and young; it shows in witty and funny speeches, and attracts all by mirthful and lovable manners; it is also an aid to digestion, and adjoins its most prominent sign. All display of anger or sadness while eating impedes digestion, while mirth assists its action. The source of supply of Mirthfulness is undoubtedly glandular, although the muscles assist its expression. The zygomaticus minor muscle is sometimes scarcely perceptible or entirely wanting.

The location of Mirthfulness near the mouth and its intimate relation to Love of Young point to its origin as glandular, depending undoubtedly on the quantity and quality of nutrition assimilated and animal warmth supplied to the system by the action of the lacteal glands. Shriveled, thin persons, or dyspeptics, are not as mirthful as those whose digestion is unimpaired; and as dyspeptics regain health and normal conditions their love of fun and mirthfulness returns to its natural state. The location of this function and faculty and the effect of its normal and abnormal action evidence its origin. Like all the faculties found in the Vegetative System, it must be considered as having its support from sources similar to those of other functions and faculties in this system. The association of all these functions is for mutual support and assistance; hence, their origin is easily determined. To "laugh and grow fat" is a truism. Anger and sadness suppress the normal supply of secretions, while mirth and contentment excite them to action.

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* Influence of the Mind upon the Body, D. H. Tuke, M.D., p. 319.

> In regard to the processes of Nutrition, the pleasurable emotions tend to excite them; hence, the excitement of certain feelings, if definitely directed, restores healthy action to an affected part and removes abnormal growths. The pleasurable emotions tend to act only in one direction, that of increased activity of the secretions, but the painful emotions act both in stimulating and in arresting secretions. Thus, Grief excites the lachrymal and Rage the salivary glands. On the other hand, the salivary secretion may be checked by Fear, and the gastric by Anxiety.*

Most of us have witnessed the depressing effects upon the mind caused by the recital of sad news, or by long-continued anxiety. These effects extend to the digestive processes, and many persons, when under the influence of grief, sadness, or anxiety, lose all relish and desire for food, and also the power to digest nourishment. In this condition it is wrong to urge the sufferer to eat, and great harm may result in the attempt.

Instead of making attempts to force them to take nourishment, a pleasant, cheerful manner should mark those surrounding the individual, and the mind should be led to more hopeful and cheering views. In this manner, the natural secretions which have been affected by unpleasant emotions will gradually return to a normal condition, and the appetite be in this manner restored.

Pneumativeness is dependent *primarily* upon the perfection of the glandular system, yet its function is not perfected until the blood has received the purifying influences of the oxygen as it reaches the lungs. *Color* also has a mixed origin, being both glandular and arterial.

Sanativeness belongs partly to the glandular system, but is assisted by the muscular powers.

THE LIVER.

Hope.—The degree of this very important faculty found in an individual is dependent upon the normal action of a strong and healthy liver. If the liver be of good quality—that is to say, free from all inherited weakness, and always acting normally—a high quality of Hope will accompany its action. Hope is a great sustainer of life; it buoys one up under great difficulties; it gives the power to overcome obstacles by a hopeful, cheerful cast of mind—if I may be allowed to use this term in speaking of a physical function, for we derive our "mental powers" from these function direct. In sickness no faculty except Firmness so sustains the spirits and strength of the invalid. In this way it promotes health and longevity. Whenever I see an individual with cheerless, despondent, hopeless views of life and the future, I look for a liver diseased either by abuse or by inheritance from some "blue," grim, joyless, jaundiced, bilious ancestor, and I find this invariably the case. How little people think, as they stuff and gorge and make themselves bilious and jaundiced, of the gloom and wretchedness they are storing up for future generations, cursing the unborn and sending down to posterity the blighting effects of their uncontrolled appetites! Surely, it is here religion should commence, where it is most needed; and Nature has placed Conscientiousness in the Vegetative Division in the physical basis of human character, in order that it should protect the body in purity and soundness, and that morality should prevail.

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*Influence of the Mind upon the Body, D. H. Tuke, M.D., p. 319.

When I observe persons whose views of life are gloomy, and who live without hope, I cannot refrain from paraphrasing the Scriptures thus:—

> The fathers have chewed gall, and the children's teeth are set on edge.

I suspect there must have been many keen, observing, thoughtful men in "Bible times," who were wiser and more scientific than they dared to acknowledge—some who understood, as Moses did, the physical construction of the body, as well as man's requirements toward a religious life. When I read such expressions as the "gall of bitterness," "bowels of mercy," etc., I cannot but think that some of the men of those times must have known that friendship derived its merciful attributes from the intestinal system, and that hopelessness and bitterness of spirits came from an overflow of the gall-bladder; else why such expressions? It will be a happy day for society when these unfortunates can be made to clearly understand that people who observe their peculiarities are able to appreciate them from the stand-point of physical imperfection, and not in the light of unpleasant eccentricity. It is a hopeful sign of the times that no one cares to pose in the light of the "interesting invalid." With the development of Face and Form Reading all these oddities, resultant from a disordered liver, will be classified in their proper light of physical deformity. No one cares to be classed among the physically unfortunate, like the hunchback, the club-footed, and the blind; and if an increased knowledge as to the true relations existing between the liver and the disposition can be generally disseminated. it will result in a greater degree of caution in the indulgence of the appetite. Suggestions as to curbing the demands of the palate, however, are not usually received with much enthusiasm, and I will not pursue the subject farther, except to say that I firmly believe that a great responsibility rests on parents in the arrangement of a dietary for their children, if they would secure for them a perfect digestion.

The liver being the largest gland in the body, we must infer that it creates important mental states. The greatest writers on mind seem to realize its importance, and have gathered extensive evidence by observation and experiment which go far toward proving its intimate relation to mental activity. The evidence collected by this class of writers is chiefly obtained by observing this organ in a state of disease. Not having any scientific knowledge of the face by which to make observations of the liver in a state of health, nor to observe *how* it affects the normal individual, their only resource has been pathological observation, such as is had in cases of sudden emotion or long-continued disorders of this viscus. And until physicians and metaphysicians are acquainted thoroughly with the facts of scientific physiognomy these methods alone will have to be employed in the study of those diseases of the mind induced by disorders of the liver, or, conversely, diseases of the liver induced by injuries to the brain or brought on by violent emotion. The following description of disease of the liver, produced by mental shock, is stated thus by Dr. Tuke. He remarks:—

> Dr. Budd, in his "Diseases of the Liver,"* observes that jaundice following mental shock, long-continued anxiety or grief, is often unattended by any alarming symptom, but now and then, after it has existed for some time without any symptoms indicative of especial danger, disorder of the brain which proves rapidly fatal comes on. After death, in such cases, portions of the liver are sometimes found completely disorganized. *It would seem that some virulent poison is generated in the liver* which deranges and then paralyzes the brain, and after death comes softening and disorganization of the liver itself. Dr. Wilson Phillip asserts that depression of mind, if protracted, alters the structure of the liver.

Of the influence of the liver over mental states, Dr. John Wm. Draper observes:—

> It is, however, on all hands admitted that nothing so quickly disturbs the brain in its action as functional disturbance of the liver. If, through a partial failure in the operation of that great gland, the products which it should normally secrete begin to accumulate in the blood, or have to seek new channels for their escape, *the vigor of the intellect is at once impaired.*†

Not only is the general condition of the mind impaired by pathological changes in the action of the liver, but where there is an inherited defect either in size or activity of this organ there is a corresponding defect in the activity and clearness of the intellect; especially is this the case with the *reasoning* and *analytical powers.*

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* Influence of the Mind upon the Body, D. H. Tuke, M.D., p. 304.
† Human Pathology, John William Draper, M.D.

It must be borne in mind that this viscus is both an excreting as well as a secreting organ; hence, it assists in relieving the system of impurities, where its action is strong and active. A temporary disturbance of its function, as is seen in a torpid or inactive state of the liver, produces a temporary inert condition of the mind, as well as a cheerless, melancholy, "blue" state of feeling, which a return to normal action completely changes to activity of mind and to a cheerful, hopeful condition. It is well known that persons transacting business while laboring under temporary disease of the liver are not so well able to perform their business in a satisfactory manner as when in their normal condition; neither have they the same control of the *moral nature.* This fact is too well known to require proofs from me. This being admitted, how then can it be doubted that a healthy condition of the liver leads to morality, while an unhealthy state of this organ conduces to feebleness of moral action?

The *first* and most important knowledge for mankind to gain is that concerning his own body, and a health-catechism should be the first book placed in the hands of youth, who should be taught that the worst sin against God's law is to breathe impure air; next, to drink impure water and eat improper food; and that to keep these laws is the "chief end of man." If the body be kept in a normal condition, pure morals and good minds are pretty sure to be the result. The candid reader, I am sure, will ere this have become convinced that true religion and a good liver are in direct relation to each other. It has been shown that insanity is often the result of a diseased liver. Now, if this be so, can it not be readily seen how essential to a pure mind and religious life is a sound liver?

FACULTIES DERIVED FROM THE INTESTINAL SYSTEM.

Friendship.—Friendship is related to and sustained by the intestinal system, and is comprised in the chemical or vegetative part of the process of digestion. Its principal local sign is fullness of the upper portion of the cheek, and adjoins the chief sign for Digestion, or Alimentiveness. Fullness of the salivary glands just in front of the ear-opening is another sign of assimilative capacity. The first stages of digestion—those performed by the stomach—are produced by muscular action chiefly, with slight assistance from the chemical action of the salivary and gastric juices. The most important part of digestion is carried on by the alimentary canal, commencing with the duodenum. The food, in its passage through the intestines, is acted upon by the secretions of the liver and pancreas; and in this part of digestion the process is mainly chemical; and it is here that the juices needed for animal heat and warmth, for the nutrition of the body generally, are found. It is here that *color* is evolved by chemical action and sent through the glands and veins to its several destinations in the tissues by the power of the same action without the slightest assistance from the muscular system; and when we observe fullness of the upper part of the cheek and a bright-red color, we know that Friendship is active, because the power, the warmth essential to its action, is present in the body in just the right proportion to enable the individual to perform the offices essential to the active duties which Friendship exacts. A thin, flat, pale, or bluish upper cheek shows the reverse of this faculty, and will always be accompanied by a small or relatively defective intestinal system.

Friendship, like Love, is both a benevolent and a selfish trait. Its character is dual, as is its *functional action*, for the glands both excrete and absorb. Primarily, it seeks to *please itself* in social enjoyments, in the society of friends, and in eating and drinking with them. It is not, like the Irishman's "reciprocity," all on one side. It seeks, also, the enjoyment of those it loves; and, where there is a good admixture of the Architectural or Mathematical powers, it assists, by planning and personal service, in every way the interests of the objects of its affection. A good development of the intestinal system gives to the organism the juices and nourishment needed to carry forward the work of Friendship, and also affords the animal warmth essential to the creation and perpetuation of this faculty, either as a sentiment or social enjoyment. Its physical basis, as I have shown, is in the Chemical Division; and, in its primitive aspect, it creates a desire for association and companionship. In the early stages of man's development it assisted in forming tribes and clans, and the faces of all clannish races exhibit this faculty largely; as, for example, the Highland Scotch, the Swiss, the Hollanders, and others. As the organism rose higher by the development and perfection of other faculties, it exhibited itself more as a *sentiment*, and showed its action by pleasant speech, in thought, care, and active works. In combination with the Chemical Division large it will exhibit itself by entertaining friends with feasts, by cooking for them, and by presents of nice foods, and by attention to their bodily wants. With the Architectural faculties added it shows in entertainments also, but adds both *sentiment* and good deeds. With the highest or Mathematical Division large, where the brain and nerves impart sensitiveness, it will be exhibited more in emotion, feeling, thought, and sentiment; in plans for the welfare of friends; in poetry dedicated to beloved objects; and by presents of flowers, books, and pictures, and by delicate attentions.

The Germans, as a class, are the most sociable and friendly of all the civilized races. They are also the best *feeders*, with most uncommon assimilative powers. Hence, it will be seen that Friendship is a conservator of life, and assists in the progressive development of the human family, both morally and physiologically. Some of the glands involved in digestion are both secretory and excretory. This dual action gives rise to a dual manifestation of Friendship; it is both selfish and unselfish.

The erroneous views of metaphysical writers as to the origin of mind have given rise to the idea that Friendship, as well as all other sentiments, is originated and operated by brain-power alone. Had these writers taken the trouble to investigate man in a scientific manner, they would have found that those races which have the best assimilative powers are inclined to be the most sociable and friendly. Persons who are very abstemious in their diet always care less for society and have less ability for social efforts than those whose digestion is very strongly developed. The act of eating is itself a social affair, inasmuch as it brings together those of the same family or household, and this constantly recurring act develops the desire and love of association. Those who are endowed with large Friendship make good caterers and provide well for the physical wants of those under their charge.

Hollow-cheeked and pale-faced persons have so poor a digestion and so little regard for food that they are incapable of selecting food for others; hence, in choosing a landlord or landlady, never select one who has a long, thin, pale face, for, with every desire to please, they will prove themselves less capable of selecting and preparing food and drink than those who exhibit a full and rosy development of this part of the face.

The close proximity of the facial signs for Alimentiveness, Sociality, and Friendship are significant, and serve to show the *common* origin of all these sentiments. The base of all of these is found in those organs which conduce to the perfect assimilation and appropriation of the nutriment taken into the system. No metaphysician that I am aware of has given the origin of any of these social sentiments, but has left the whole matter to be referred to the action of the brain system.

I think it must be apparent to all thoughtful persons that the brain can *create nothing* of itself; but must depend entirely upon the power originated or residing in the several organ systems within the body, and which send their contributions to the brain through the blood, nerves, and muscles. *The body is the manufactory, the brain the registering and photographing apparatus; the face is the index or dial of all existing states and conditions;* and not only is the face the register of all moral, mental, and physical conditions, but it is also the indicator of the grade of development of our *ancestors*, and one skilled in physiognomy is often able to tell the habits, customs, professions, and physical powers and weaknesses of one's ancestors by means of the facial signs observed. A developed friendship is not created in one generation, but must be the product of the habits of many ancestors; hence, when we observe the sign for Friendship, Sociality, or Alimentiveness large in the countenance of an individual, we are safe in saying that the ancestors of that person were friendly, hospitable people. In this way, as in all ways, "our deeds do follow and live after us." We are not living for ourselves alone, neither can we, if we desire it. Our faces write in living letters not only our characters, but those of our progenitors also, and if we are descended from the "nobility" we need no "Herald's College" to proclaim it. Our faces settle the question. Said Voltaire:—

> If as much care were taken to perpetuate a race of fine men as is done to prevent the mixture of ignoble blood in horses and dogs, the genealogy of every one would be written on his face and displayed in his manners.

There have been master minds in all ages of the world who have comprehended that the face was intended to disclose the character; but as a practical system has been lacking by which to locate and verify the signs of character, intuition has been the main dependence of all observers.

The physiognomy of Shakespeare reveals a character possessed of a large degree of this faculty. He was by this power enabled to divine, as it were, friendly or unfriendly, honest or dishonest persons by simply coming within their personal atmosphere. It was thus he comprehended character instantaneously. His writings, as well as his physiognomy, prove his possession of this power.

Analysis.—As I have previously shown that Hope derives its power from a portion of the glandular system,—viz., from the liver,—so also we shall find that the analytical power is in strong sympathy with the same organ. Its facial sign adjoins that of Hope, and is situated upon the septum of the nose directly under the cautionary action of the nostrils. These two faculties and functions (Hope and Analysis) occupy a position about midway between the Vegetative, or chemical, and the Muscular, or mechanical divisions of the face and body, and are both assisted by the action of the liver. This organ has the power of excreting and secreting, and assists by its clearness of action the so-called mental operations so necessary in mechanical, artistic, and literary work.

The sign for the Liver and Hope in the face is situated just above the Vegetative Division of the physiognomy, yet it seems to assist the action of this department as well as the action of the other divisions above; particularly does it affect the lungs and heart. We know that this is the fact physiologically, and, if physiologically, the "mental" character is affected by such interaction. The kind of analytical power to which the action of the liver gives rise is better adapted to the analysis of art, literature, mechanism, and science, than the sort which is essential to abstract reasoning. Hence, we observe with inventive, fertile, imaginative, and artistic persons this sign is very pronounced. The septum of the nose of such subjects will be seen projecting downward, with an unusual clearness of the skin and brightness of the eye, thus evidencing that the biliary system is doing its perfect work. A large frontal brain, if of high quality, gives the power to reason abstractly, but for reflection resulting in *action*, as in executive administration, and in the several forms of art, as in painting, sculpture, acting, etc., an active liver is necessary, as this gives clearness and activity in carrying out the ideas which the mind has formed.

Physiology teaches that the liver acts as a sort of "clearing house" for the blood of the entire system, and that its office is to cleanse and purify the blood before it ascends to the brain. This being the case, we can readily understand how essential to the brain is the perfect action of this organ in all its operations. Hence it is that where we observe the facial sign for the liver we always find a good degree of analytical power accompanying it. This fact should teach us that if we wish to increase our mental powers we should pay attention to the condition of the liver, as far more depends upon the condition of this organ than most people are aware of. The purity and vigor of the entire body depends upon the purity and quality of the blood, and thus it is that the interaction of the liver, blood, nerves, and brain are all concerned in intellectual manifestations and power. All organs of the viscera are directly related to mentality, and the mind is dependent upon their normal action for the ability to manifest Hope, Analysis, and other sentiments and powers. I feel justified in naming the liver as the basis of Analysis, for the reason that I have observed this faculty most active when the liver was most developed, and not so active in those in whom the sign for the liver was small, even when the fore-brain was well developed. Another reason for considering these faculties as having a common basis is because their signs adjoin each other in the septum; and it is a law of physiognomy, as well as of physiology, that those faculties and functions which are grouped in close juxtaposition are mutually related to and assist each other.

FACULTIES DERIVED FROM THE NERVES OF THE SKIN.

Modesty.—The most prominent sign of Modesty is shown by a vertical depression running down the centre of the upper lip. It is an unfailing sign of a love of purity, cleanliness, and generally of chastity; all of which are conducive to health and long life. Persons exhibiting this sign use refined language, dislike all coarse or smutty jokes or allusions; love neatness of attire, and desire to change their clothing often; dislike bad odors emanating from the breath or skin; bathe frequently; and in all ways testify to cleanly, chaste, and modest tastes. Its location near Amativeness and Self-esteem suggests the beauty and utility of its placing.

Modesty is related to the brain and nerve system, and is sustained by the nerves of the skin-covering mainly. The *sensitiveness* of the skin demands that care shall be exercised in promoting the comfort of the body by cleanliness without and purity within. Individuals exhibiting the sign for Modesty take as much pains in the preparation of their food as they do in preserving the skin, for Modesty is more than "skin deep." It is concerned with the *interior* conditions as well as with the exterior; for it is only by having a state of soundness and purity of the digestive system that a fine, clear, healthy skin can be obtained; and although very cleanly, chaste, and modest persons may not know enough of the *rationale* of this faculty to reason upon it they will observe, if they attend to it, that they are inclined to be fastidious in regard to the quality of their food and drink. Care in this direction prevents the pimples and blotches which are often observed in the countenances and on the bodies of many persons.

Modesty is innate in those who exhibit it largely. It has many phases, and presents both physical and mental aspects. Some individuals exhibit only one phase, others possess several characteristics. Those persons whose skins are thick, greasy, and rough, and whose hair is very coarse and dull are never as modest and cleanly as those who are the reverse, and this is still another proof of its origin.

The situation of the local sign is most wisely placed, for on the one hand it tempers and modifies the effects of Amativeness, which would otherwise descend to coarse, low, and sensual behavior, and on the other hand it modifies Self-esteem, which unrestrained would exhibit egotism of the most offensive and unbearable description. Scarcely any sign so exhibits the wisdom of its placing as the local sign for Modesty. This sign is general as well as local, and fine, clear skin, as well as bright, fine, glossy hair, attests to that love of cleanliness and neatness which is one of its most striking phases.

ANALYSIS OF THE GLANDULAR SYSTEM AND OLFACTORY GANGLION.

Cautiousness.—One of the principal facial signs of Caution is shown by extreme length of nose. Its principal use is to protect the body by the sense of scent, which prevents all hurtful and noxious materials from entering the stomach, and keeps poisonous gases and odors from the lungs. The sense of scent acts as a sentinel; hence its position, directly above the mouth. This sign is conceded by all physiognomists. In the animal world this faculty is more used than in the human race; for we depend more than they upon our eyes and acquired experience. The eyes and observation are not so well suited to this purpose in animals as they are in men, hence it is that all animals smell their food constantly during a meal. The herbivorous animals, while in a natural state, seldom touch any grass or herb which is poisonous or detrimental to them—so unerring is their scent; yet, after becoming domesticated, they lose this faculty partially. This sense is perhaps as high as man's power for observation; yet people usually speak of it as "animal instinct," conveying the idea that this faculty is something inferior to human observation, while in reality it is far superior to it; for no human being can tell by scent alone, without experience, whether certain plants are hurtful or useful. In many directions animals possess superior powers. Had they a suitable physiological development which would enable them to speak, they would soon convict many of us of more cruelties, meannesses, and contemptible behavior than even wild beasts are guilty of.

An excess of Cautiousness is usually associated with a constricted state of the liver and prevents its healthy action. Where this is the case, Hope and artistic Analysis are never strongly developed in the individual. Intense Secretiveness tends also to an inactive liver.

All of those classes of animals that are excessively cautious and secretive—as, for example, the tiger, the panther, the fox, the coon, the skunk, the opossum, and the cat—make great use of their flexor muscles, and this, added to the fact that their biliary system is not so powerful as their thoracic system, causes many disorders of the liver among them.

The correlation of function with faculty, and of form with function, is a most interesting branch of our subject, and will be treated of later. The habits, traits, forms, and weaknesses produced by different degrees of development of the liver are most wonderful. The sense of scent is a powerful animal faculty, and in looking for its origin we find it best developed in the most cautious animals; hence, the length as well as width of the nasal organ stands in direct relation to the faculty of caution, and this reacts upon the muscles, particularly upon the flexors, as by the use of these the animal is enabled to sneak and hide. Secretiveness and Cautiousness both conspire to affect the action of the liver as well as of the muscles and the sphincters. Those in whom these traits are paramount are usually affected by constipation and all the sphincters of the body are very tensely constricted. So great is this contraction in some cautious and secretive persons that it induces permanent derangements of the intestinal system. Herein we have the most positive evidence of the interaction of the mental and physical states of function and faculty.

The Hebrew race is the most Cautious of all the civilized races; the facial sign of this trait in them is most remarkably developed; their noses are both very long and very broad, thus evidencing a talented degree of Caution.

The several faculties the signs of which cluster about the tip of the nose, viz., Mental Imitation, Sublimity, Ideality, and Human Nature, are based mainly upon a fine development of the brain and nervous system, assisted by the muscular system. Acquisitiveness is evolved from the muscular system and visceral organs, while Constructiveness derives its power from muscle.

FACULTIES DERIVED FROM THE OSSEOUS SYSTEM.

Veneration.—This faculty is evolved *primarily* from a developed condition of the stomach. Height and width of the bridge of the nose is its principal local sign in the face. Unlike the intestinal system, the action of the stomach is mainly mechanical. We find its local sign, as well as the organ itself, situated in the mechanical or architectural division. The stomach is the receiving laboratory where the solid materials are *first* mixed by *mechanical action* mainly. This operation is named "peristaltic action," and is produced by the contractions of the muscles of the stomach and the expansion and contraction of the lungs and diaphragm. The saliva and gastric juice of the stomach perform only a small part of the chemistry of digestion. The materials that are taken into the stomach, after being thus acted upon, are distributed for further chemical action in the intestines, glands, etc., before the act of creating and replacing new tissues, bones, muscles, nerves, etc., is completed. Although we are dependent upon the fluid circulation to convey to their destinations in the liquid form all the materials necessary for the maintenance of the body, at the same time suitable *solid* materials must be furnished to the stomach, to be by its mechanism converted into chyme, a kind of pulp. There its further progress is continued to the duodenum, where it attains a fluid state denominated chyle. This is received into the general circulation, and assists not only in nourishing the body, and in creating bone, muscle, and nerve, but it also furnishes the materials essential to the creation of other human organisms.

This slight description of the process of digestion will serve to explain how the perfected and developed condition and action of the stomach will produce a corresponding development of the bony system, as well as a fine quality of all the softer tissues.

And now I suppose the reader will ask for the connecting proofs of the relation of the stomach with the faculty of Veneration and its sign in the face. This question is pertinent, and demands on my part a decided and clear answer. Physiognomy, like all sciences, is founded on observation primarily. Now, in the faces of the most developed races and persons (by this I mean physical as well as moral development) we observe that the nose is high and broad at the point where I have located the sign for Veneration, and this height and width are always accompanied by superior strength of stomach. In the noses of undeveloped persons and races the organ, at the sign for Veneration, is flat and narrow, and totally different in appearance from the former; and with this inferiority of nasal development we always find co-existent a lack of the venerative faculty, while the character is inclined to low thoughts and impudence, or evinces a spontaneous and natural disregard of those things which are respected by the opposite type, such as laws, customs, proprieties, old age, religion, and social observances. Depression of the nose at Veneration is always accompanied with a relative *weakness* of the *stomach*. The logical conclusion, then, must be that the face and character of an individual who is physiologically and anatomically developed will exhibit a degree of perfection in which the bony system is one of the dominant tissues and Veneration one of the most marked attributes. *Continued observation, research, and comparison* on my part have given me the proof that the development of the nose at this part indicates a vigorous and strongly developed condition of the stomach. This faculty and function are finely illustrated in the Hebrew race, for the Hebrew is an old and perfected race,—one which has paid especial attention to the hygienic laws as inculcated by Moses; hence, it has become physiologically developed, and in point of *ability to digest* is not excelled by any other civilized race. The noses of most of them are high and broad at the sign for Veneration. Their regard for God, law, order, old age, etc., is exhibited in their lives, and certainly a race which has given to the world a Deborah and a Moses in ancient times, and, in modern days, a Mendelssohn, an Aguilar, a Heinrich Heine, a Disraeli, a Lessing, a Rachel, a Malibran, and a Montifiore, proves its title to a high degree of development.

As before stated, a nose low or scooped at the centre is universally accompanied by a predisposition to weakness of the stomach. This does not necessarily involve weakness of the intestinal system, for the one depends upon muscular or mechanical action and the other part of the process of digestion—the chief part—upon chemical or glandular action. Over thirty feet of intestinal surface (according to physiologists) are traversed before the process of digestion is complete. In the animal kingdom we observe among those that have very flat noses, such as monkeys, apes, and other flat-nosed creatures, that dyspepsia is quite prevalent, more so than among camels, dogs, elephants, and horses. Dyspepsia leads to consumption, which cuts off those men and animals that exhibit a low formation of the nose. Persons and animals with long, slim necks are also predisposed to dyspepsia and consumption, and accordingly we find that giraffes especially are subject to dyspeptic ailments, even in their natural state.

FACULTIES DERIVED FROM THE OSSEOUS AND MUSCULAR SYSTEMS.

Executiveness.—This faculty, like Veneration, is found only among the most developed beings. Wherever it is observed it results from a fine development of the bony system, and its local sign is manifested by height of the nasal bone and width of the muscle just above Veneration. Its location between the signs for Veneration and Self-will is most significant, and denotes that it is related in its action to both these faculties of mind. It is assisted by both, hence their juxtaposition in the face. Wherever the fluid circulation of the body has done its work thoroughly, we find that the bones have received their modicum of material, created by thorough assimilation of the nutriment conveyed to the stomach. If heredity has in the first instance bestowed upon an individual a fine development of the osseous system the ability for perfect assimilation will keep up the same high standard of bone growth, and it is among individuals thus endowed that we may look for the highest examples of executive powers. Assistance must also be received from the muscular system, for no system acts entirely alone. The local signs which lie grouped together are useful in pointing out the systems or functions which they represent and from which they derive their support. Each group acts in conjunction and harmony in the body, and promotes the mental manifestation made possible by their developed condition. Here, as elsewhere in the human organism, we are met with the fact of the interrelation and correlation of physical functions with mental faculties.

FACULTIES DERIVED FROM THE MUSCULAR SYSTEM.

Self-Will.—The ancient metaphysicians, not having a physical basis upon which to rest their deductions in regard to Mind, left us a very indefinite idea of the term "Will" as applied to the human mind. What I wish to describe by this term is that class of acts which are performed by aid of the muscles mainly in conformity to the decision of the individual. Whenever we observe one with a large development of the muscles we shall find the sign for Self-will most decided in the face. This sign is situated in the nose at its junction with the forehead. It lies between the eyes and above the sign for Executiveness, a faculty which it greatly assists. It is composed of muscle. It is true that there is bone beneath it, but where this sign is most apparent the muscle fills out this portion of the nose, and (as we see in Greek profiles) the outline of the nose descends in one continued right line from the forehead to the tip of the nose.

The corroborative evidence of its muscular origin is found in the fact that those whose muscular system is best developed possess the greatest degree of will-power, or the ability for prompt, spontaneous, and forcible action, while those lacking in the muscular system are correspondingly deficient in this most useful faculty of mind. The faces of all who have excelled as leaders, commanders, and those who have led in the greatest enterprises of the world exhibit in their countenances this sign, and in every instance where this sign is exhibited we shall find a superior muscular development. I do not mean by this remark that we shall find the muscular system of a prize-fighter, but that the muscles *dominate* the bony system, regardless of the size of the individual, whether it be a child or a dwarf. The signs for the supremacy of this system are manifest all over the entire body, and are known by thickness of the neck, wide and thick shoulders, round body and head, full convex eye, round ear, curving jaw, round thick nose, round chin, fingers inclined to taper, and all of the joints rounded and well covered by muscle. These signs are found in those whose will is most powerful.

It is true that the brain where conscious intelligence is created, and where sensation and motion are co-ordinated, must have a quality or condition corresponding to the quality of muscle found in each individual. This the law of harmonious action teaches must be the case; the action of the muscles depends in most cases upon the *decision* of the thinking or conscious portion of the brain, and those who possess a fine and large degree of muscle decide instantaneously. In many instances the muscles act automatically after repeated movements of them in one direction, and instances are related where piano-players have been able to use this automatism while asleep at the piano.

If one were to decide upon performing a certain act without going any further, the mere act of deciding could not be considered an act of the will purely, but must be understood as a process of the *abstract power of reason*, which, if followed by acts of the muscular system could be properly demonstrated an exercise of the will. Sometimes the voluntary muscles seem to act spontaneously or without previous decision on the part of the reasoning powers, but whether the individual acts spontaneously or with purpose, or whether he acts wisely or unwisely, the one best endowed in the matter of muscle can act with the greatest force and spontaneity in his movements, and where there is a *good* or great brain system in addition, the thoughts and speech are capable of the greatest degree of courage, clearness, and power. Such people are executive and resolute, with ability to command and lead, in thought as well as in action. If Self-will were a purely mental or brain faculty, then those with the most powerful brain systems would exhibit the greatest degree of will-power; but observation teaches us that this is not the case. It is true that those with large brains have decided *opinions*, but where we observe the best development of the muscles there is to be found the greatest capacity for the *expression* of the *active will.* By dividing up the powers of the human organism, we are enabled to simplify the study of human science; not only to simplify its study, but also to make clear what has been so long a mystery to the mass of mankind, and when the masses can be taught that the first and most important duty of life is to understand, care for, and protect the body, we shall then have those who are truly religious; that is to say, those who live in harmony with the laws of God and Nature. A high and fine development of the muscular system is a precious inheritance; the conservation of this system should be taught as a religious duty. The world is peopled with the weak of will, the irresolute, the timid and shrinking, who often become a burden to others and assist in swelling our criminal classes. Surely, then, parents should see that daughters, as well as sons, have opportunity for such muscular training as shall fit them to meet the battles and storms of life with a strong and courageous will, which will enable them to conquer circumstances as well as their own defects.

Credenciveness.—A faculty which is so generally distributed in so large a measure throughout all the races of mankind is surely worthy of more than passing notice.

Credenciveness in its *normal* condition is the faculty which is adapted to the reception and belief of the truths of history, biography, current events, and statements of individuals.

It has been named by phrenologists "Faith," "Wonder," "Spirituality," and "Marvelousness," neither of which expresses its normal use and purpose. Its *perversions* are numerous and gross, leading often to the most superstitious and degrading practices. Unaccompanied by reason, conscientiousness, or intelligence, it is found among the degraded idolators and animal worshippers of the savage tribes, and leads to most barbarous and inhuman practices. This faculty is also possessed in varying degrees by civilized races, and is the faculty most relied upon by fanatics and despots to control multitudes of those who possess Credenciveness unbalanced by reason, conscientiousness, or knowledge. Religious impostors from time to time have relied upon an exaggerated degree of Credenciveness in their followers to maintain their power and replenish their coffers; and, even in this enlightened age, there are numerous people who are swayed by those who know how to work upon this weakness, and thus they become voluntary contributors toward the maintenance of numbers of idle people, simply because they have shrewdly identified themselves thoroughly with the "cause."

The uses of this faculty are various. Besides the aid it renders to our daily life by giving us the desire to *know* the wonders of Nature, to hear the news and statements of facts, the love of stories, history, biography, etc., it assists the poet in clothing his descriptions in most exaggerated and wonderful style, such as are found in Dante's "Inferno" and Milton's "Paradise Lost." This faculty is large in those artists who by their works illustrate the wonderful, weird, mystic, and improbable. The paintings of Gustave Dorè and William Blake show the effect of this peculiar faculty. Many poets have given convincing proof of their possession of this faculty by their vivid descriptions of heavens, hells, devils, furies, and dragons, of fearful aspect; such beings are described by Milton and Dante, who also have given us pen-paintings of scenes of supernal beauty.

Astrologers and mesmerists deal in mystic and symbolic language, and astonish the credulous and amuse others, all for a small financial consideration. But, with the advance of general knowledge, their field of operation is steadily narrowing in all directions. The works and face of Mahomet, too, are in perfect accord in this direction; and in private life, wherever we find a very superstitious person, one who revels in marvels, miracles, and wonderful statements, we shall find the wide-open eye and high-arched brow of the "believer" of anything and everything which is impossible, improbable, astounding, and marvelous. The less truth there is in anything, the more attraction is there for this class of beings. Europeans as a class are more credulous than Americans. They are yet under the influence of mediæval superstitions and the authority of the ecclesiastical powers, while Americans have had one hundred years of enlightenment and freedom of thought and conscience, and these influences tell upon the character, for Americans have less veneration and less credulity than any other civilized nation; yet even they have enough and to spare. The Chinese, as a race, are very credulous, and certainly we can scarcely find a more slavishly-superstitious race. Just the opposite of theirs is the physiognomy of a scientist—one who seeks the absolute truth. The eyebrows of such are most especially significant of Observation,—the faculty which is just the opposite of Credenciveness. In these the inner corner of the eyebrow is brought close down to the eye, and the eye itself, no matter how large it may be, is set back under projecting eye-bones, and this is the appearance that the faces of the most practical classes present—such as mechanics, most physicians, naturalists, scientists, and practical persons generally.

Now, it will be observed that all of these indications of Credenciveness are found situated in the muscular system, and are most developed among the muscular races; hence, we are warranted in ascribing to this faculty a muscular origin. The very *construction of the portion of the face about the eyes and eyebrows* renders this class of persons incapable of the closest observation. Capacity for accurate *observation* alone can give this power, aided by Conscientiousness, and these two faculties arise from the bony system. Those in whom the muscular system is dominant have not evolved to that plane which enables them to comprehend the laws and principles of Nature so well and so readily as those in whom the bony system is dominant. It would appear that religion is a result of evolutionary progression, and that the capacity to understand absolute truth is most pronounced where reason and conscience are the most developed, and these faculties are strongest in the osseous people and races; while superstitious religions, and beliefs in charms, incantations, omens, and supernatural beings are observed most prevalent among the muscular people and races—for example, the Turks, Arabs, Hindoos, Chinese, and the barbarous races generally. Their religious beliefs are characterized by the most childish, mystic, and incomprehensible ideas and ceremonies; or in other classes, by barbarous, cruel, and degrading rites. The religion of a race will settle its grade in development most conclusively, for "religion without reason is superstition."

FACULTIES DERIVED FROM THE OSSEOUS AND NERVOUS SYSTEMS.

Observation.—The origin of this faculty is without doubt in the osseous system, assisted by the muscles and certain nerves, inasmuch as it is the most general and the best developed among bony people and animals. Its principal facial sign is a lowering down of the eyebrows at their inner terminus and a projection forward of the frontal *bone* at this point. Phrenologists tell us that this appearance is caused by "brain development" at this locality, but I think we can readily prove it to have its origin in the osseous system primarily, assisted by the eye and the muscles of the surrounding parts, particularly by the orbicularis palpebrarum and the corrugator supercilii muscles, which, by reason of their constant use (by those who are naturally observant), become much enlarged as age advances, until they sometimes present the appearance of a small wen. Again, the superior size of these muscles at this point is due to the increased size of the bones beneath them.

The phrenological theory that brain-matter causes the bulging out of the eyes by an "organ" under them, or back of them, indicating Language, is as erroneous as the theory that brain "organs" back of the bones of the superciliary arch cause the prominence which they name "Observation," a name which I also use as descriptive of the same faculty and locality, but claim for it an *entirely different origin.* I believe I have stated elsewhere in this work the origin of the signs adjacent to the eyes. The development of this locality takes place under the laws of progressive evolution, and when organisms have reached that point in which the bones have supremacy over the muscles, the bones adjacent to the eyes, the superciliary ridges are, as a matter of course, correspondingly developed. Hence it is that we find the faculty of Observation *not* the strongest where the brain is the largest, but where the *bony system is best exhibited.*

Bone development in the face advances *pari passu* with bone development in the rest of the body. In order to clear away the doubt and mystery which has so long attended the analysis and origin of mental power, we must lift the load from the poor overloaded brain and relegate to their own sources the several powers concerned in the so-called "Mental operations." Again, we may find corroborative evidence of the osseous origin of the several signs and faculties by reference to the most observing animals,—the horse, the elephant, and the dog. The bony system of these animals is in excess of the muscular, and their uncommon degree of the faculty of Observation is well known.

The aggregation of bone and muscle about the eyes, as exhibited in the countenance of the most observing and practical races and persons, is caused in the first instance by continued use of the visual organs. Now, it is a well-settled principle of physiology that "use increases capacity," and when the eyes are greatly exercised an unusual flow of blood to those parts takes place, and a corresponding increase of *size* of all of the several tissues involved in the act of seeing occurs, and this being transmitted to offspring (who by virtue of another principle equally potent, viz., "that those faculties which are the strongest demand the most activity"), exercise in a greater degree the same faculties as did their progenitors, and, thus intensified by inheritance and use, the great observers of the world are created, not by their own efforts entirely, but by the efforts of their ancestors as well. If we take the trouble to trace the lineage of any of our eminent scientists, mechanics, or inventors, we shall undoubtedly find that they have inherited from some practical and observing ancestor the capacity for increased observation. Erricsson is a most illustrious example of inherited mechanical powers.

Bone development is a later and higher evolution than muscle growth, and accordingly we find that those races and persons whose bony systems exceed the muscular are higher and more perfected generally and most unquestionably more moral and practical. The reader is referred to the general description of the osseous system for a full account of its powers. I believe that all faculties, as well as functions, are represented in the brain, but doubt the ability of any one to describe the character of others by feeling or looking at the brain, without reference to the face and the form of the body generally.

FACULTIES DERIVED FROM THE MUSCULAR AND BRAIN SYSTEMS.

Memory of Events.—The memory of events, as its name indicates, gives the power to retain and recall events of all kinds,—history, scientific facts, anecdotes, experiments, public measures, news, and neighborhood gossip. Its facial sign is situated above Observation and between the two local signs of Locality.

Those with this faculty large learn readily new ideas, principles, and doctrines; can become good teachers, and, with Language large, editors and writers. It endows the character with a common-sense view of affairs, and assists progressive tendencies. It is large in children, as their faces indicate. It is possessed by historians, descriptive writers, orators, and statesmen.

Memory of Events is indebted mainly to the brain system for its power, aided by the muscular system. Its complex derivation gives it ability to remember events which the *visual* organs take cognizance of, as well as what is heard,—as events transpire in history, or in affairs of the city, town, or neighborhood. Where the region about the eyes is well developed the character will possess great practical inclinations, and as the eyes and ears are largely concerned in the reception of news, both by seeing and hearing, this department of the mind is indebted to the auditory and optic nerves, as well as to the muscles of those parts.

Memory pertains to every individual thing and fact in existence. There is memory of form, of words, of tunes, of time, of voice, of taste, of color, of locality, of numbers, and of all separate parts, particles, and motions in the universe. Indeed, Memory is a universal faculty, and adapted to the recognition and retention of all matter and matters whatsoever; it is as illimitable as the scope of creation.

Memory is a faculty of the five systems of functions; each has its own sort of memory. The muscular system, in a most especial manner, is endowed with Memory. The automatic movements which are made by the musician, the dancer, the athlete, the mechanician, etc., become to them "second nature," as we term it. So, also, the olfactory, auditory, and gustatory nerves store up sensations once impressed upon them, and the odor of a flower or the taste of food instantly brings to the recollection scenes, places, and persons long since (apparently) forgotten. Memory connected with the taste and smell must be the strongest, inasmuch as they are the parts of the sense-memory that is *first* exercised in infancy. After these, the visual, auditory, and tactile sensations are earliest used and the easiest recalled; but the memory of thought, of abstract ideas, comes into play later in the life of the individual after the knowledge of *things* has ripened into *thoughts*.

A great memory in any department of mentality is a grand gift, and where great memory is co-existent with other equally large powers of mind we have individuals of the first class; such were Julius and Joseph Scaliger, Humboldt, Lord Macaulay, Hugh Miller, Guizot, Richard Porson, Baron Cuvier, Goethe, Madame de Stael, and Edmund Burke, of whom Dr. Johnson remarked that "his mind was a perennial stream." Most of these persons were endowed by Nature with exceptional powers of Memory, but developed, increased, and strengthened by wise care and judicious practice. There are some persons who possess most uncommon powers of Memory, but have no originality. Unlike the above-mentioned persons, they contribute nothing to the general store of knowledge or thought, but are mere *storehouses* of the thoughts of others, and can quote by the hour what different authors have said, yet never venture upon an original observation. These last may be likened to a storehouse, while the former are great manufactories wherein *thought is created* for the benefit of generations to come. Apropos to this, the poet, Tupper, observes, "Memory is not wisdom; a fool can rote volumes." Yet this faculty is often taken by the thoughtless as an indication of wisdom.

The possession of a great memory merely is no indication of intellect or wisdom. Many persons noted for memory of various kinds have also been noted for absence of intelligence of most other things. Young Bidder, the arithmetician, possessed a most extraordinary gift of calculation, yet was incapable of being educated for the higher departments of mathematics for lack of sufficient intellect to supplement his arithmetical powers. Indeed, there is no doubt that extended memorizing often injures and impairs the reasoning faculties. Many gifted *creative* minds are very deficient in certain departments of Memory. The agitation and rapidity of thought, and the manifold combinations of ideas, of construction and reconstruction essential to original creations, whether of music, science, or literature, must naturally militate against that calm and quiet condition of the brain which is essential to extended memorizing. This is, no doubt, the experience of all creative minds, unless an unusually great memory has been inherited along with the other powers.

As Memory belongs to every part of the organism, so its cultivation can be proceeded with from the physical stand-point as well as from the mental, and, indeed, in children this part of the memory would be the only proper part to *commence* with. It is this department of mind that the kindergarten system of education seeks to develop when it educates the young child in size, form, color, touch, taste, and smell; for as physical sensations are the first which are experienced by the human being, this method of teaching is simply following the methods of Nature in this respect. The old-time method of education was to commence with the use of abstract memory,—the memorizing of ideas, words, and expressions,—and this involved the forcing into action that part of the memory which develops *latest* in life. This is manifestly improper and injurious. *Nature's teaching* and Nature's leading can never take us wrong. The old-time ideas of Memory contributed to this ignorant method of procedure. Metaphysics taught that *memory* was a unit and the direct effect of the action of the brain alone. It admitted not the degraded body into the companionship of Memory. The ideas entertained in regard to it were very restricted. On this point the following expression from Dr. Maudsley is pertinent. He observes:—

> Take, for example, the so-called **faculty of memory**, of which metaphysicians have made so much, as affording us the knowledge of personal identity. From the way in which they usually treat of it one would suppose that Memory was peculiar to *Mind*, and far beyond the reach of physical explanation. But a little reflection will prove that it is nothing of the kind. The acquired functions of the spinal cord and of the sensory ganglia obviously imply the existence of Memory, which is indispensable to their formation and exercise. How else could these centres be educated? The impressions made upon them and the answering movements both leave their traces behind them, which are capable of being revived on the occasions of similar impressions. A ganglionic centre, whether of mind, sensation, or movement, which was without memory, would be an idiotic centre incapable of being taught its functions. In every nerve-cell there is Memory, and not only so, but there is *memory in every organic element* of the body. The virus of small pox or of syphilis makes its mark on the constitution for the rest of life. The Memory in which the scar of a cut on a child's finger is perpetuated and grows as the body grows evinces, as Mr. Paget has pointed out, that the organic element of the past remembers the change which it has suffered.*

Memory of all sorts depends upon a healthy condition of the body for the exercise of its greatest degree of power. Slight illness will sometimes weaken the memory of persons, places, duties, words, and facts to an astonishing degree, and not until the bodily health resumes its normal condition will the memory resume its power.

There are cases on record where the memory has been almost entirely obliterated by long-continued illness, by debauchery, and also by sudden fright and terror, by suspense long-continued, and by sexual excesses, self-abuse, and other causes. Memory is subject to many diseases, and investigators who have adopted the physiological method of research are accumulating a vast amount of useful knowledge as to the origin or cause of these diseases, together with the means for their remedy. Mons. T. H. Ribot has written a very common-sense and useful work on "Diseases of the Memory," and as he has adopted the new method of analyzing Memory he has advanced our knowledge in this direction immeasurably. Of the various inequalities of Memory he has the most just ideas. The fact that some persons possess memory of words and not of colors, memory of forms and not of sounds, etc., and that the base of some departments of Memory is to be found in the organic functions is recognized by him, as the following extract will prove. He observes:—

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* Body and Mind. H. Maudsley. M.D., p. 24.

> Through differences of constitution the impression transmitted may be faint or strong, stable or transient. The preponderance of any system of organs—those of generation, for example—gives the superiority to one group of recollections. There remain the higher psychic states, abstract ideas, and complex sentiments. These cannot be referred directly to any organ. The seat of their production and reproduction has never been located with precision, but as they no doubt result from an association or disassociation of primary states, there is no ground for supposing that they are exceptional.*

Of the possessions of partial memories he observes:—

> What is implied by these partial memories? Special *development of a special sense with the anatomical structures dependent on it.* To make this clearer take a particular case—for instance, a good visual memory. This has for its condition a good structure of the eye, of the optic nerve, and of the portions of the brain which concur in the act of vision,—that is to say (according to the received notions of anatomists), certain portions of the pons, the crura, the optic tract, and the hemispheres.†

M. Ribot gives as among the causes of loss of memory the following: "Weakened circulation of the blood, deficient action of the heart, excessive fatigue, and lack of nutrition, together with the immoderate use of stimulants, narcotics, and sedatives, such as hasheesh and bromide of potassium," which last very greatly impairs the general memory. Besides the work by M. Ribot, above mentioned, the reader can consult with profit "Principles of Mental Physiology," by Wm. W. Carpenter, M.D.

Weight.—The sense of weight or balance is inherent in the muscular system, and its effects are wrought almost entirely by the movements and adjustments of the muscles, as in walking, dancing, skating, and balancing. It is the peculiar inherited quality of the muscles which gives ability for marksmanship, aim and direction,—as in shooting, handling tools, such as the graver, the chisel, the use of levers, and dentists' instruments, etc.; it gives the intuitive perception of the laws of equilibrium, or gravity, motion, and resistance; it is one of the essentials in engineering, setting up and running machinery, and in the mechanical part of music. Children possessed of a good degree of this sense walk earlier than others and love to be in constant motion. The effects produced by its development *point to its origin.* It has several facial signs. As muscle produces curves, and bones cause angles we shall expect to find in the rounded individual many evidences of this sense. The rounding head, the rounding out of the sides of the upper part of the forehead, and the filling out of the supercilii muscle at its intersection with the pyramidalis nasi muscle are some of its facial and local signs.

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* The Diseases of Memory, T. H. Ribot (Humboldt Library), p. 33.

† *Ibid.*, p. 32.

The muscular sense, or faculty of weight, is large in singers, musical instrumentalists, acrobats, sailors, athletes, rowers, swimmers, and equestrians, as well as in astronomers, engravers, sculptors, jewellers, glass-blowers, weavers, plumbers, and mechanics generally.

Those who possess a large share of this sense are not liable to seasickness, for the reason that the adjustments necessary for walking, balancing, etc., are easily made, and the individual shifts his position and maintains his equilibrium most readily.

The united action of the bones and muscles form a system of lever-powers, and hence it is that the joints of those who have sensitive and highly organized muscles can change and adapt their positions more readily than where this system is deficient in size and quality. "Physical Imitation" is a muscular faculty, as well as Constructiveness, Language, and Self-will; hence, it must be apparent to the reader how important is the development and exercise of the muscular system to the growing child, and when he reflects that those faculties which are put in constant use are transmitted in an intensified and augmented degree he will realize the vastness of results which flow from a highly developed muscular sense. The Greeks comprehended the influence which the development of the muscles had upon the character, and accordingly we find that their government sustained at a great expense elaborate gymnasia, where athletic games were taught to men, women, and children. These games were accounted sacred, and great prizes and honors awarded to the successful competitors. How vast the influence which this muscular development of the Greeks has exercised upon ancient as well as modern art, science, and intellect, it would be hard to say, but looking backward to the days of their great sculptors, orators, actors, poets, and crowned athletes we are forced to recognize that the high development of the muscular sense is one of the most important factors in character-building, both mentally, morally, and physically.

Not only is the high development of the muscular system a powerful ally to art, but it also contributes to assist poor, ailing humanity by its magnetic qualities; for we find in this system the capacity for imparting vital powers to those who have lost strength and who are suffering under diseased conditions. The capacity for healing by magnetic powers or manipulation is most strongly indicated where the muscular system is dominant, and is least exhibited where the vegetative system is in the ascendancy.

Locality.—Locality is a faculty from which is derived the sense of locating and placing all things which one observes, and of being able to re-locate them by recalling to mind their places and positions.

It is always found large in those who love motion, and accordingly we observe in the faces of travellers the local sign for locality well defined. Naturalists, navigators, scientists, and mechanics find this a most useful faculty, and, as they are obliged to exercise this trait constantly, it soon makes a most decided impress upon the countenance. By constant practice the *muscle* at the local sign for weight assumes a size most noticeable, and is often mistaken for a false growth or wen by those who are ignorant of how large a facial muscle may become by constant use. Where the brain system is regnant this faculty and sign are relatively small; so, also, where the vegetative system dominates, but with the muscular system slightly in the ascendant, there we find it the best defined; hence, we know that it originates in that system. Another proof is, that the *sign itself* is shown by the fullness of a particular muscle. One peculiarity in regard to the signs in the face is that each so-called " mental faculty" exhibits its facial sign by the development in the face of the system or systems from which *its power is derived*, and which is its *physical base;* thus, to illustrate, the sign for Benevolence is found in the development of the under lip, and, as the size of the under lip is caused by the development of the glands therein, so we know that Benevolence is created and sustained by the power and action of the glandular system. The only method to observe in tracing the origin of facial signs is to analyze their purpose as well as the system or tissue which promotes their action, observe its laws and methods, and study its immediate surroundings.

FACULTIES DERIVED FROM THE GLANDULAR AND ARTERIAL SYSTEMS.

Analysis of Color.—The ancient writers classified the several races of men by the colors exhibited in their skin, hair, and eyes, and the combinations of colors observed by them were denominated " temperaments." Hippocrates, the most noted physician of ancient times, described four primary constituents of the blood, or what he *assumed* to be its constituents, as the basis of human character. These he named the " blood," the " phlegm," the " yellow bile," and the "black bile." According to the predominance of one or the other of these components in the individual, he was considered to be either of the "sanguine," " phlegmatic," " the choleric," or " melancholic" temperament. This classification of the structure and character of mankind was the standard authority for ages, and existed as such with slight modifications by later observers, until modern phrenology was announced as a science, when its promulgators modified these four primary temperaments into the lymphatic, the sanguine, the bilious and nervous, or mental; the latter addition being the radical idea introduced into the ancient system. Now, the ancient writers, both in their scientific writings as well as in their poems and statuary, show that they laid little stress upon the formation of the brain as illustrative of character. It was, in fact, an unknown region to them. They knew nothing of its importance to the human body, and did not realize its relations at all. *Lavater* first, and after him Gall and Spurzheim, the promulgators of phrenology, made the first departure from the ancient method of classification based on color, and classified by the *form* of the *brain*, as well as the *colors* of the *organism*. The phrenologists went almost as far in one direction as the ancients had in the other: while the latter laid all the stress upon color, so the former laid the most stress upon the *shape* of the *brain*, and, going farther, at last located the *entire mind* therein.

Scientific physiognomy extends somewhat the science of mind, and shows that mind is inherent in *every atom* of the body; that *form*, not only of the brain, but of the face, the limbs, the trunk, the viscera, the hands, the feet, the fingers and toes, together with color, quality, size, proportion, and compensation, must all be regarded in order to secure a just comprehension of any individual character of mind. Still, color plays a most important part in revealing character. In order to understand its importance as a revelator of mental and physical characteristics, we must analyze its purpose and trace it to its origin. The color which emanates from the sun is undoubtedly the source from which we obtain the greater amount of coloring matter. Light is composed of all colors, and it is from sunlight that we, as well as all vegetation, derive the larger amount of color. The lesser quantity is brought into the human system through the medium of nutriment received through animal and vegetable foods. These articles of food take up from the mineral constituents of the earth, air, and water portions of coloring matter which, by the fine and subtle chemistries of Nature, are carried through these channels until they reach the complex human system, and are there organized into several colors, which we observe in the white, red, black, and yellow races, as well as in the diverse shades which we find in the Caucasian, or white race. Experiments with the spectroscope have demonstrated that each mineral possesses a color peculiar to itself, and chemical analysis has taught us that a bright-yellow color is a product of sodium or salt; strontium and lithium give forth red; copper, green; arsenic, lilac. Various shades of these several colors are produced while these minerals are in a state of incandescence, and form what is called their spectra. By the use of the prism, which is a triangular piece of glass, a volume of color from any one of these metals while in an incandescent state can be obtained, and by refraction the lines of light are thrown apart, and the color, which is a property of that particular mineral, is thrown into view. Continued experiments on the part of the great scientists and chemists of the world have demonstrated that the potencies of all substances in Nature may be known by their colors. Now, if it be possible to determine the power of an elementary substance by its color,—such, for example, as sodium, which is a mineral almost universally present in air, water, and in all organized bodies,—would it not be logical to infer that colors as we find them exhibited in the highest organism in the world would be equally susceptible of analysis and classification, and their power demonstrated? The truth is, that color is so universal a constituent of all things in Nature, and man has been so accustomed to its effects, that an analysis of its properties and potencies has not been sought until recently. But the labors of such physicists as Wollasten, Bunsen, Frauenhofer, Helmholtz, Lockyer, Dalton, Berzelius, Kirchoff, Brewster, and others, are unfolding to the knowledge of man the highly important part which color plays in the construction of the entire universe, as well as in its effect upon man's organism. Every phase of color, each shade, hue, and tint, reveals somewhat of man's character, and when the glands by their subtile chemistries have extracted the colors from the nutriment taken into the stomach (which had been previously drawn up from the soil into the grains and vegetables through their roots) and placed them in the skin, hair, and eyes of man, it is quite within the power of ordinary minds to *comprehend* and *interpret* the signification of the several colors thus placed.

We have only to refer to the origin and primitive meaning of colors as disclosed by the spectrum and chemical analyses, in order to determine the relation which they bear to man and the powers which he derives from them. We shall find in this comparison a remarkable coincidence of signification, and a true interpretation of Nature's methods of revealing her laws and power.

Without going into an exhaustive description of the significance of colors here, I will briefly state that experiments with the solar spectrum have demonstrated that red gives forth the most heat; yellow stands next in power; green the third; blue still less, while the violet ray has the least of all. The mineral substances from which each of these colors are derived are known to chemists. It follows as a logical sequence that wherever we find corresponding colors in man we shall also find a correspondence of *properties;* as, for example, with red, we shall observe the most heat or vitality and power; and thus in decreasing degrees the grade of potency of other and weaker hues. It must be apparent, also, that if certain colors are present in an individual, the mineral constituents from which these colors are drawn must be present; of course, not in the crude state, but organized in the blood, the bones, the muscles, the skin, the hair, and eyes. The variations in the mineral constituents in different human organisms have been proven by the analyses of the several parts of the body in different individuals after death. For it has been demonstrated experimentally by physicists that sodium, calcium, iron, copper, and other minerals enter into the composition of the human body in varying degrees of quantity, and are different in the several organs; hence, the differences in power, health, activity, and appearances in divers individuals are shown and may be known by analyses of the several colors of the various parts of their bodies. One fact is patent to all, that colorless, pallid persons never possess the same degree of health, power, and activity that is exhibited by the well and normally colored. And this is equally true in regard to plants.

FACULTIES DERIVED FROM THE BRAIN AND NERVE SYSTEM.

Mental Order.—This department of Order is largest where the brain system is dominant, and enables its possessor to arrange thoughts, sentences, quotations, and all his mental operations in an orderly, precise, and systematic manner. This form of order is operated by the brain purely,—by that part of the brain which is representative of this faculty; for there can be no longer a doubt that every department of mind, every faculty, and every function is represented and localized in the brain; and that this department of Order derives its energy from the brain purely, without the assistance of the muscles, the bones, the viscera, or other parts. We must consider it as having its origin in the brain. Many persons who possess Mental Order in large measure are deficient in Physical Order and seem to have no ability for the methodical systematic arrangement of their homes, furniture, clothing, books, etc. Mental Order is large in writers of history, scientists, and naturalists, and is possessed by inventors and good mechanics.

Physical Order is derived from a square, precise, and orderly arrangement of the osseous system. Where this system is slightly in the ascendancy over the muscular system, we find the best talent in this direction. Its possessors will have a place for everything and everything in its place; will be precise, methodical, exact, and with a fair degree of time will be prompt and punctual in keeping engagements and observing set times for duties, business, pleasures, etc. They are pained and irritated if their associates fail to replace things where they belong, and if they become enfeebled by nervous disorders are very fussy and suffer by seeing things disordered or out of their place. This faculty is quite small where the vegetative system is dominant, for this system possesses very little either of Mental or Physical Order. The vegetative system is based on the fluid circulation and the nature of fluid is such that it moves and shifts and does not remain in fixed positions, but, like the water of the ocean, surges from point to point and never returns to the same place. Hence, very little Order may be expected from the soft, fluidic, yielding, vegetative individual.

Order is adapted to everything in Nature and must be supreme on earth, as well as "Heaven's first law" All creatures have their appropriate sphere or realm, and when they are inappropriately placed chaos and suffering is the result. Each individual has his or her place in Nature, and until this is found their highest use and happiness will not ensue. Physiognomy is the best means known to man for classifying and *grading* all human beings and for pointing out and determining their place according to the order or grade of intellect which each possesses.

FACULTY DERIVED FROM THE FIVE SUPERIOR SYSTEMS.

Time.—The faculty of Time has several diverse phases and is manifested in very different and distinct ways. Time, as we compute it, is caused by the revolutions of the earth, sun and moon. This is our *basis* for the calculation of time; hence, time and motion are synonymous, and the several distinct phases of time which we observe in the acts and organisms of man are dependent upon some of the many modes of motion, either within or without his body, for their ability to manifest their presence. One phase of this faculty enables us to take cognizance of the lapse of time, of periods of succession of hours, days, months, and years. This peculiar form of time inheres in the *brain and nervous* system, and is exhibited in its highest power by astronomers and mathematicians, and is dependent largely upon abstract mathematical faculties for its expression. Its computations can be conducted by the brain alone, without the assistance of the other parts of the organism. Another form of time gives the ability to keep time in dancing, walking, marching, athletics, beating time on instruments with the hands, and in singing, playing upon musical instruments, and in manufacturing time-keeping instruments, which illustrate the periodic movements of the earth, winds, tides, etc.; also, in elocution, oratory, and speaking. In all these movements the *muscular* system is most concerned, and this sort of time is discoverable in persons in whom the muscular system is dominant and who are possessed of a rounded form. In elocution and oratory the regular periodic beating of the *heart*, and the *rhythmic movement of the lungs and periodic circulation of the blood* doubtless influences the speech by dividing it up into natural pauses.

Time is most certainly concerned in the process of *digestion*, and here *two different phases* of time will be observed in action. That part of the digestive process which is performed by the *stomach* has a certain set and defined time for the pr*ô*per discharge of its duties; for the time essential to the digestion of all articles of food by the stomach is known and has been tabulated in medical works. The process of digestion in the stomach is affected and assisted by the *movements* of the heart and lungs, and thus we see why it is that those in whom the thoracic system is large exhibit a good sense of time in walking, speaking, singing, etc. The rhythmic movements of the heart, the lungs, and stomach combined contribute to produce movements of a precise and periodic nature, and those in whom the muscular system predominates are the best adapted to regularity and automatism of motion of all sorts. The time-keeping sense in marching and walking and in taking cognizance of the lapse of time—in being punctual in keeping engagements and in observing regular habits—is almost lacking in those in whom the vegetative system predominates. The explanation of this is that the process of digestion is *almost constantly going on in the intestines* and the functional action of the intestines is not dependent upon a *certain set period of time* for its performance. Individuals have been known to exist thirty days and over without action of the intestinal system; hence, time affects this part of the organism the least. In the lowest animal organisms assimilation is constantly going on, and the intestinal system of the human species is analogous to the primitive intestinal tube of the gastrula (the primitive intestinal animal).

Several forms of the time-sense are often observed in combination in one individual. Musical composers, for example, like Handel and Meyerbeer, illustrate by their combination of the brain and muscular systems the possession of two sorts of time—the sort which inheres in the brain system exclusively, added to the *rhythmic* sort which is the essential property of the muscular system, and which cannot be performed by means of any other department of the bodily organization. Brain is competent to perform only its own peculiar form and share in the illustration of the time-keeping faculty, and until this division and distribution of the several parts of this faculty is made, and each form of the faculty assigned its own proper sphere of action, we shall have no just or correct ideas of this *all-pervading* sense. The phrenological idea, that *one little sign* at the outer angle of the eyebrow stands indicative of this universal faculty, is most absurd in the presence of the great enlightenment which physiological analysis throws upon the origin of the several sources of Time. It is not disputed that the faculty of Time is represented in the brain. It probably has *several* representatives there, each standing for its own peculiar phase in the bodily organism. The appearance at that portion of the eyebrow which is said by phrenologists to be the sign for the presence of an "organ" of Time in an individual is a local sign of the sort of time which inheres in the *osseous* system and is caused by the *squareness* of the bones at this point, and not by a *bulge of brain.* The osseous system illustrates a different phase of time than that exhibited by the brain, the thoracic, or the muscular system. The dominance of the osseous system in an individual gives the sort of time-sense which exhibits punctuality in habits, promptness in keeping engagements, and in being able to tell the time of day or night instinctively. Time, as well as Order, is one of the leading characteristics of the bony system, and belongs to the *mind of the bones.* The vegetative individual possesses little of either of these faculties, because lacking in bone; yet many have the sort of time useful to musical accentuation, if a fair share of muscle is in combination. Many eminent singers in whom the vegetative system is well developed possess the faculty of musical time through their combination of the muscular and vegetative systems. A predominance of the osseous and muscular systems will exhibit a different phase of time than where the muscular and brain systems are preeminent. So, also, an individual in whom the brain, muscular, and osseous systems are well developed and of high quality will possess a combination of several kinds of Time, which may assist in musical composition or in astronomical labors. In which of these it may result, will depend upon other faculties in the combination. If the osseous system predominates slightly, then a scientific tendency will be exhibited; but if the muscular system is in the ascendency, a musical or artistic capacity is present. A little more bone or a trifle more muscle makes a vast difference in the direction of mental efforts; so, also, does a slight difference in the *quality* of the several constituents of a given organism, generally speaking. Where the quality of the skin is of a high grade, all the other tissues and constituents will be of the same quality, *even if they are not largely developed.* In the investigation of the source or sources of a faculty, and in the analysis necessary to the same, we must be guided by a close investigation of the physiological and anatomical structure of the body. Neither one person nor one generation is competent to perceive and relate all that may be said on the subject of physiognomy; for, like astronomy, one generation of observers after another must leave to posterity the result of their labors to be added to and built upon by their successors. There is much that can be learned only by an examination of the *living subject*, and the teacher of this science should endeavor to teach from the book of Nature all departments of the science, as it is only in this manner that the infinite number of minute differences in human nature can be observed and comprehended; for the smallest and finest appearances in a physiognomy are sometimes the most decisive, as, says Lavater, "to despise what is minute is to despise Nature;" hence, in looking for the origin of the faculty of Time, or indeed of any other trait, we must analyze first its manifestations as it outworks mentally, then trace it to its origin and analyze the action and the constituents of the system or function from which it proceeds. There is no other reliable method.

The periodic character of all vital phenomena is well demonstrated in all Nature's works, whether it be in the process of digestion, in the repair of tissue, the periodic movements of the heart and lungs, or in the regularity attending gestation in the various animal organisms. All attest not only that Time is a universal property, but that it has many modes of manifesting its several phases; hence, the idea of pointing to one single sign as its representative in the face is too contracted entirely. We must learn how to separate and analyze its several manifestations before passing judgment on this point.

FACULTIES DERIVED FROM THE MUSCULAR SYSTEM.

Calculation.—Arithmetical ability, or the capacity for comprehending and calculating numbers, memorizing dates and figures, and reckoning sums, is a trait entirely distinct from those which conduce to mathematical power. Although the mathematician is dependent upon a certain degree of knowledge of arithmetic, yet the two are not always found associated in the same individual. The origin of pure Calculation is undoubtedly in the muscular system, and is represented in the brain.

The best natural calculators in the world are those in whom the muscular system predominates slightly over the osseous. The Mongolian race, for example, are natural and rapid calculators, and show early and decided ability in the direction of arithmetical calculation; yet the great majority of them would be wholly unable to learn mathematics, for the reason that pure mathematics is mainly dependent upon the *reasoning* faculties for power to exhibit its principles, and reason of a high order is not a development observed in the majority of this race. Calculation is also possessed by some animals in a marked degree. The pig has been trained to use blocks in numbering, but its powers are quite limited. The elephant, the horse, the magpie, and the dog possess considerable ability in comprehending the number of articles which they use, or which have been intrusted to them.

On this point Professor Haeckel remarks thus:—

> At the lowest stage of human mental development are the Australians, some tribes of the Polynesians, and the Bushmen, Hottentots, and some of the Negro tribes. Language, the chief characteristic of genuine men, has with them remained at the lowest stage of development, and hence, also, their formation of ideas has remained at a low stage. Many of these wild tribes have not even a name for animal, plant, color, and such most simple ideas, whereas they have a word for every single striking *form* of animal and plant, and for every single *sound*. In many of their languages there are numerals only for one, two, and three. No Australian language counts beyond four. Very many wild tribes can count no further than ten or twenty, whereas some very clever dogs have been made to count to forty and even beyond sixty.*

There have been many persons who, from birth, have manifested most extraordinary powers of calculation. George Bidder, well known to fame, is an example of the precocious development of this trait, yet, although his calculations were most extraordinary and lightning-like, he was quite unable to pursue the higher mathematics with a view of studying for a profession, proving conclusively that a different department of the mind and body is used in each of these branches of numerical computation. There are many phases of the calculative faculty. Where it is exhibited by those in whom the muscular system predominates it is usually accompanied by a good share of what is termed "policy," or worldly calculation. In the Mongolian race, and in those individuals of the Caucasian race who resemble the Mongolian in their anatomical development, a large degree of cunning, craft, and slyness is observed. These traits are all based on pure calculation, and, although they have no immediate relation to numbers, are yet one phase, and the lowest phase, of Calculation; and this form of calculation is the compensation for mental, moral, or physical defects, which prevent the individual or animal from making his way or procuring a living by moral and intellectual efforts. Craft in man or animal is a sign of weakness of some sort, for "craft is but the substitute of power."

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* History of Creation, Haeckel, vol. ii, p. 363.

The class of animals in whom are found the greatest degree of calculation, cunning, slyness, and deception are those in whom the muscular system dominates the osseous or brain systems, as will be observed in the tiger, the panther, the cat, the rat, the fox, the coon, the opossum, and the skunk, etc., while in those animals in whom the osseous system is in the ascendency, as the dog, the horse, and the camel, we find very little cunning or slyness. The latter class possess real power of mind and morality as compared with the former, hence can maintain themselves without resort to trickery. Shy and timid animals also exhibit a large share of calculation of a different sort from that shown by the sly animals. The deer, the hare, and the rabbit are dependent upon their fleetness and extra caution. Cautiousness is one form of calculation, and cautiousness in excess is not exhibited either by persons or animals possessed of good moral and intellectual powers.

I do not wish to be understood as saying that a good arithmetician cannot be honest or possess reason, yet I may safely assert that the world has given us many illustrious examples of men who were eminent for rectitude and reason, who were greatly deficient in calculation. George Combe, who was talented as a lawyer and lecturer, and was noted for the integrity and purity of his life, said that "after seven years' study of arithmetic he could not comprehend the multiplication table." In this gentleman the brain system was dominant. Many eminent astronomers, chemists, and physicists possess both calculative and mathematical ability, but these are first-class minds, such as Herschel, Lalande, Pascal, Del Ambre, Procter, Newton, Lavoisier, D'Alembert, Dalton, Oersted, Count Rumford, Wollaston, and numberless others. In these individuals most of the mental powers are above the average, and other faculties are of the first grade. In such minds neither calculation, policy, nor craft predominate, for the reason that *real* power and ability preclude the necessity of substitutes or the compensatory assistance of cunning or craft.

Calculation, or computation, is nearly related to Order as well as to Time, and the local signs of these faculties are grouped in such contiguity in the face as to show their nearness of relationship and mutual dependence upon and assistance to each other. Each faculty presents many phases. Not only are these differences distributed singly among many individuals, but several forms of the same trait are often observed in the same character. Most faculties appear to have a range of action of considerable compass; thus, Calculation ranges in man and animals all the way from the useful condition of numerical computation, through the various grades of policy (which is also a most useful and necessary trait, being nearly allied to tact) down to cautiousness, cunning, deception, trickery, slyness, shyness, and timidity. We cannot impute cunning or deception to an individual simply from his possession of fine arithmetical ability, yet he may, and almost always does, possess in combination a good share of worldly policy and tact. The skilled physiognomist can decide which of these forms each person possesses.

In deciding as to the origin of faculties, we are obliged to depend upon long-continued observations for verification, and from observation both in the human and animal kingdoms we are led to analyze the action and nature of the constituents of the function, or system of functions, in which we observe a faculty to be the most developed. From this analysis we must make a logical deduction which shall agree with the facts observed, as well as with the related law. And when the reader asks—as he most certainly has the right—how the muscular system is proven to be the origin, source, or base of Calculation, I shall refer him first to the fact that long-continued observation has shown, first, that this power is found best developed in those persons and races of men in whom the muscular system is paramount; next, that its lowest developments, such as craft, cunning, etc., are found universally distributed in varying degrees among those classes of animals in which the muscular system is dominant. Furthermore, Calculation is most nearly related to Acquisitiveness in its nature and action, and Acquisitiveness is indebted mainly to the muscular system for its getting and acquiring power, and, in its primitive or animal manifestations, is exhibited by the desire for getting food and materials for nest- and home- building, as we observe in the animals and birds of the forest; and, as those animals who are best endowed by Nature with the getting and preying instinct and talent exhibit the predominance of the muscular system, we must logically conclude that the origin of Calculation is muscular, for "similarity of structure denotes similarity of function and faculty" all along the line of organic evolution.

Music.—Whatever doubt there may be in the mind of man in regard to the origin and source of the so-called "mental faculties" there can surely be no doubt as to the source from whence is derived the capacity for singing and playing upon musical instruments.

The parts of the organism involved in the production of tone or sound, whether in vocal or spoken sound, are mainly muscular. It is true that the auditory nerves assist in conveying to the department of brain assigned to the *consciousness* of sound the sonorous vibrations of the atmosphere, yet without the aid of the muscular system there could be neither spoken nor vocal sound. Brain alone, no matter how well developed, has not the capacity to produce vocal music, for singing, speaking, and oratory are dependent upon a fine quality and high development of the larynx, the glottis, the trachea, the vocal cords, the lips, the tongue and cheeks, together with a suitable development of the diaphragm, thorax, and ear.

All these parts of the organism are mainly of a muscular or cartilaginous nature, and where these several parts of the body are strong and of high quality there will be found the most spontaneous capacity for vocal expression by singing and instrumentation. The principles upon which sound is based are those which are also found to exist in muscle, viz., resonance, elasticity, and the ability to produce curved motions. In order to comprehend the *rationale* of the signs of musical ability, we are obliged to analyze the origin of sound and the instrumentalities which produce it. Sound is caused by vibrations of the atmosphere set in motion by force acting upon various substances—such as wood, metal, reeds, wire strings, etc. Vocal sounds are originated in the larynx, which is of a cartilaginous nature. The action of this organ sets in motion atmospheric air, which, impinging upon the tympanum of the ear, is there recognized as soft or hard, short or long tones, according to the force and time employed in such performance. Sound once set in motion forms waves or curves in the air, which are caught by the external ear and thrown upon the tympanum or drum, and here the nerves of the ear and brain recognize the sounds thus received and imitate and modulate them by the aid of the muscles of the glottis, the larynx, the vocal cords, the trachea, the tongue, the lips, the cheeks, and ear. Two of the elements of sound are resonance and elasticity, and these two elements are found in the atmosphere, as well as in reeds, strings, wire, and cartilage. Another element of sound is the wavy or curved motion through the air, and sound which proceeds from the larynx comes through circular waves as it flows through the air toward the ear. The auricle, or shell of the ear, is also round, and the inner formations are of a curved or spiral character, as exhibited in the cochlea, in the three semicircular canals. The meatus auditorius, or external opening of the ear, as well as the auricle, are both circular in formation.

In the human being the ability to execute curves is confined to cartilaginous or muscular material, and *all art is founded on the circle* or *sections* of it. In singing and speaking the larynx must be able to construct every gradation of the circle. As Swedengorg expresses it:—

> It must have acquired the faculty of opening the glottis into all measures, figures, and forms whatever that can be described by the geometric compass or summed up by the analytical calculus from the line or fissure to the complete circle.

We are here met with the fact that *geometrical measurement* and *form* is yet another element of sound, and we shall find, as we continue to investigate the complex mechanism which we call man, that all the sciences, chemical, architectural and mathematical, have their exponent and highest illustration in that most marvellous and sublime of all God's creations—man's physiognomy.

In the preceding ideas it has been shown that the elements of sound are resonance, elasticity, and circular form; and the necessary components of a musician are resonance, elasticity and circular formation. Who shall say that the science of physiognomy is not capable of mathematical illustration?

As before stated, the parts of the body which are involved in the production and reception of sound or tone are situated in the mouth and its surroundings, as well as in the ear. Accordingly, we shall expect to find in the formations of the vocal and auditory apparatus of singers and orators a different construction from that of those not so well endowed musically or vocally. Were we to examine these parts in the organisms of, say, one hundred of the most eminent singers, we should find that their facial resemblances, in these respects, were identical, although of different nationalities and of the most diverse individualities; yet in all cases we should find a *nose* soft, muscular, round, and relatively short, notably in the face of Miss Annie Louise Carey, Madame Scalchi, Sir Arthur Sullivan, Madam Sembrich, Albani, Emma Abbot, and Campanini.

Indeed, the noses of all *good* singers are short in relation to the other facial features. There are two causes for this. In the first place, all great singers possess a predominance of the muscular system, and muscle tends to shorten, while bone tends to lengthen features. Then, again, if the nose were long relatively to other features, there would not exist sufficient *length from the roof of the mouth to the point of the chin* to give volume; there would not be sufficient *area* for the *production of tone.* This peculiarity of formation gives height to the roof of the mouth. Thus it will be observed that in order to produce powerful, sonorous, vocal effects, there must be a consensus of action between the bony structure of the nose, the head and the ear, and the muscles involved in the performance of vocality. The nasal and frontal bones are of a loose, spongy nature, and the cavities termed "frontal sinuses" assist materially in affording resonance to the voice. The bones of the ear—the malleus, the incus, and the stapes—also contribute by their reverberatory quality to the reception of sound and tone, while the auditory nerves are useful in distinguishing the differences in sounds. The formation of the mouth and its surroundings also promote the production of tone. Height of the roof of the mouth is essential, as well as length of the chin forward and downward; and full cheeks give the second dimension necessary, while width from the lips to the vocal cords give the third measurement; this formation is characteristic of most good singers and speakers. It is this space which gives room for *volume* to the voice. The *ear* is also concerned in musical efforts, and must by its shape, size, and quality assist in the general make-up of a musician. Accordingly, we find that the musical ear will be as Professor Willis has described it; he observes:—

> The rounded, well-formed ear that sets forward and outward instead of being flat on the head is a pretty good sign of musical taste, if not of talent.

Of the form of the unmusical ear, he remarks thus:—

> Observe the angular and sharp-pointed form of the top of the ear. It is built on the same principle as the long, sharp-pointed ear of the ass and mule, which animals are not noted for their appreciation of music.*

"All animals with the rounding ear are more or less fond of musical sounds, while those with sharp-pointed ears are disgusted with or indifferent to music." This has been tested by several observers with the above results. Every minute appearance of the ear is noteworthy and has its meaning. The external ear in every case is suited to the head and person upon whom it is observed; it is suited also to the throat, nose, and mouth found in combination with it, and it would suit no other, so homogeneous is Nature in all her operations. There are, of course, great differences in the quality of bone in different individuals, but I must believe that the bones of those in whom the muscular system is dominant are less charged with lime and mineral matters, and possess a larger proportion of animal ingredients than those in whom the osseous system is supreme. The artist and singer must not only possess more *flexible muscles* for the purposes of art and vocality, but must also be possessed of more flexibility of bone, than the mechanic, the scientist, or moralist. In the former, all the powers and purposes are in direct opposition to the latter. The artistic classes are for the expression of motion, emotion, imitation, and amusement, while the mechanical and scientific classes deal with the laws and principles of Nature; hence, their characters exhibit the most integrity, stability, firmness, and accuracy, as befits those engaged in the discovery and application of the laws and truths of Nature. These laws are founded on *eternal truth*, hence those who assist in the exposition of them must in their own organisms possess the qualities which partake of the nature of the phenomena which they investigate. As well ask a blind man to state the difference between light and darkness as to expect the purely artistic to comprehend the laws which reveal the sciences, or to expect from the purely mechanical and scientific, the flexible, yielding, resonant qualities essential to art-purposes. Whenever Nature constructs a great musician, she does not endow him with great, square, strong bones and relatively spare muscles. Man often makes the stupid mistakes of compelling children to study arts and sciences for which Nature has not fitted them; but where man co-operates with Nature, those great geniuses are produced who dazzle and astonish the world, and whose works and lives go down the ages to bless, enrich, and stimulate the multitude.

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* A Treatise on Human Nature and Physiognomy, Prof. A. E. Willis, p. 625. Chicago, 1882.

The logical outcome of this analysis of music is—1st, that for the purpose of producing singing tones the right mechanism must be afforded by Nature; 2d, that this mechanism is mainly constructed of muscle, and possesses the same qualities as does the atmosphere, viz., those of resonance, flexibility, and capacity for producing curves; 3d, that the signs of this musical capacity are to be met with in the muscular system, and most of them are external, as in the mouth, the ear, the cheeks, the lips, the chin, and the thorax; 4th, it is proven that, in order to produce *volume* of tone, the area of the internal structure of the mouth must possess vertical, lateral, and antero-posterior space; 5th, it is shown that the glottis must be able to form all "measures and figures that can be described by the geometric compass or summed up by the analytical calculus from the line of fissure to the complete circle," and, lastly, the logical deduction is that the musical individual is discovered by roundness of the entire body, roundness of the head, the face, the ear, the cheeks, the throat, the chin, the thorax, and the fingers round and tapering.

Analysis and logic will reveal much of Nature's methods of construction, while a systematic course of observation and generalizing will provide the material from which the deductions can be made.

Language.—Investigation as to the origin of language has been conducted with great ardor in the two last centuries, and has resulted in a systematic classification of the relationship of all languages and dialects, both ancient and modern. To the indefatigable labors of one man—Max Müller—are we indebted for great light upon this branch of knowledge. His method of classification is based upon the grammatical construction of language, and not on the similarity of the words, as is popularly believed.

Had Mr. Max Müller made use of the knowledge which scientific physiognomy imparts he would have been able to advance his efforts, and perhaps have made his undertaking lighter, for the language of a race depends greatly upon its anatomical and physiological structure. In spoken sound, as in singing, the effort is made by aid of the several parts involved in the production and reception of musical sounds. Yet when we come to analyze spoken language we must take a wider range of research, for the reason that all persons express themselves by speech, while only a few, comparatively, use musical tones.

The means of communicating ideas and wants by language is universal, yet the kind of language used varies in different individuals; and the kind of language which will be used by the numerous races, both civilized and uncivilized, depends entirely upon the peculiarities of their anatomical structure, together with the grade of *quality* of their development as a race and as individuals.

If one were to contrast the language of the ancient Greeks and Chinese, for example, he would find the expression of ideas, of shades and grades of thought and feeling, capable of being expressed by these two languages as diverse as are these two peoples; and in the structure of both face and form he would trace (if he understood physiognomy) the origin of these diversities, and assign to each the language proper to the two distinct races. An examination of the bones of the skull alone would not give this insight into these existing differences, but an examination of the entire outline of the body, together with a critical analysis of the face and the quality of the individual, would explain how the ancient Greeks came to construct so elaborate and pliant a language, and one so capable of expressing the most minute shades of thought and feeling. This could be done by an investigation of their faces and figures alone, without reference to their literature, for in this people the brain and muscular systems predominated, and in this peculiarity of structure we find the mechanism required for philosophy and art, as well as for the grand achievements of oratory which have probably never been equalled by any race. Of this peculiar flexibility of the Greek language, Professor Jebb remarks:—

> By using one turn of phrase instead of another which would have been equally correct, or with the help of those little words called "participles,"

which answered to the play of features or tone of voice in talking, or even by a slight change in the order of the sentence, a Greek could mark with delicate precision the meaning which he meant to convey. This peculiar power which the language acquired of being *bent* into the exact shape of the thought entitles Greek to be called the most *flexible* of languages. No one who is a stranger to Greek literature has seen how perfect an instrument it is possible for human speech to be.*

The language of the Greeks grew and developed, as did the people, and the master-pieces of the Greek sculptors which have escaped the ravages of time, and are to be seen in the various art-galleries and museums of Europe, disclose to us the source of the linguistic power of this nation.

In this people the muscular system was *trained* and developed in every part to the highest state of perfection possible; hence, they possessed the most *perfect mechanism* for speaking, and also for hearing, for the auditory apparatus is almost entirely within the muscular system, as are the organs of speech. It is rational to conclude that the one conditions the other, and so among the families of language the Greek stands pre-eminent for its capacity to express with greatest precision and exactness the most delicate shades and grades of thought, emotion, and feeling. By referring to any good work on ethnology the reader can make comparison between the Greek and the uncivilized races. Not only will the physiognomy of the former disclose the facial signs for superior linguistic capacities, but the outlines of the entire organism of the Greek will (apart from the face) indicate this superiority if read by the laws of scientific physiognomy. I claim that by observation of the individual one can decide as to what class of words he will make use of, and that by classifying a race or individual according to the laws laid down in the chapter on the "Five Systems of Functions" it can be known whether one will use adjectives profusely whether he will make greater use of the purest Anglo-Saxon, using nouns most, or those words which express concrete ideas, such a horse, dog, cow, man, or other words or short sentences which completely express in short, terse, and practical words *complete idea* Those persons in whom the muscular system is dominant will, i possessed of an average quality of brain, make use of many a jectives, expletives, interjections, and ejaculations; if educated, wi use the most ornate language, and embellish with all the graces o rhetoric his speech and writings. Mad. de Stael is a good illu tration of this class. In her the muscular and brain systems we dominant. Where the osseous system is supreme, the most direc simple, clear, and practical language will control the utteranc

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* Greek Literature, R. C. Jebb, p. 8. 1879.

Where education has assisted the individual he will be able to make the most clear, concise, and explicit descriptions, both in writing and speaking. Such persons are eminently adapted to the elucidation of mechanical and scientific principles. Professor Tyndall, for example, is an excellent illustration of this class. His language is sufficiently ornate and pleasing, but its general style is more explicit, definite, clear, pointed, logical, and direct than merely ornamental. The bone and brain systems are most pronounced in Professor Tyndall.

I should name the class of persons of whom Mad. de Stael stands representative "adjective" men, and Professor Tyndall's class "noun" men. These differences can as well be understood by an examination of the hand, the fingers, or shape of the finger-nails as by observation of the face, for here the sign for the gift of Language, or fluency, is denoted by fullness of the muscular eyeball. Fluency alone does not indicate the gift of Language in its *highest and best sense.* Fluent chatter is not fluent sense, neither is it conversation, nor oratory. Other signs must decide to which of these departments the individual belongs.

Where the faculty of Language is best defined, it is shown by a fine development and high quality of the muscular system, and reference to any part of this system will decide upon its presence or absence. The signs for mentality will exhibit its quality and power. Persons in whom the thoracic system abounds will give vent to many exaggerations in speech. Their feelings always being at very high or very low tension, they will in accordance with this formation express themselves vehemently, with force, enthusiasm, and joyfulness; or, if under the influence of sorrow, the feelings will give expression to the most despondent and hopeless words, and in listening to one under these influences we would imagine that never before was such a desolate, bereaved, forlorn, and deserted being.

This class of persons are electric, made so by the full and free inhalation of the atmosphere, which elevates and depresses (according as it is good or bad, or scarce or plenty), and allows great scope for expansiveness. To use a homely expression, "they are always either up in the garret or down in the cellar," but to their credit I will say they reside chiefly in the garret when they are not still higher up—in the observatory. When excited by indignation, their expletives are of the most pointed description, and I have known most amiable and moral persons bring out at such times a "big, big D," or a sudden and lively reference to the father of lies, appearing afterward to be much relieved by the explosion. Not only is the kind of language which one uses indicated by his form, but the quality of tone produced and exhibited by his anatomical formation can be known (if disease has not changed it) to the skilled physiognomist. So harmonious is Nature, and so homogeneous the human organism, that any given part indicates the character of the whole. This principle was well understood by Lavater, who, writing upon this point, remarked:—

> Consider the voices of men; their height, depth, strength, weakness; whether hollow, clear, rough, pleasant, natural or feigned; and inquire what foreheads and what tones are oftenest associated. If the student has a good ear, he will certainly acquire the knowledge of temperament, character, and what class the forehead belongs to by the voice.*

And, again, he observes:—

> Tall people with a flatness of breast have weak voices.†

Persons in whom the muscular system is dominant and of a fine quality possess rich, mellow, full tones of voice; but where the muscles are not of high quality the voice will be "throaty," thick, and unmusical; even if they use the voice in singing, it will be disagreeable and lacking in clearness, sweetness, and purity.

The grade of the mental development of a race or of an individual will discover the class of ideas, as well as exhibit the sort of language, suited to the expression of the grade of intelligence which it has reached. The minds of uncivilized races could not comprehend many of the ideas which are common to the most civilized, and we find upon investigating the languages of savages that they are as lacking in the *ideas* of many moral, affectional, and emotional sentiments as they are in suitable words for the expression of them. Indeed, they could not comprehend either the meaning of many of our words, expressive of the simplest domestic duties and habits, nor see the necessity or use for such duties and customs. The mouth and its surrounding parts of the Tasmanian, Bushman, and Hottentot, for example, unfolds the grade of mental development, together with the style of language which such minds would naturally make use of. Only words expressive of the simplest animal necessities, and of rage and warfare, with very few terms of parental or conjugal love, or of mercy, justice, right or wrong, could issue from such lips. No person possessed of common sense, even if devoid of a knowledge of physiognomy would expect anything different from such mouths. The physiognomical sense is sufficiently strong in the civilized races, at least, to enable them to comprehend this at the first glance; yet, in spite of this inherited and intuitional capacity for physiognomy, many persons will avow their utter disbelief in the theory that the countenance unfolds character.

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* Essays on Physiognomy, Lavater, p. 158. † *Ibid.*, p, 309.

That language improves in the ratio that the body develops physiologically is proven not only by reference to the savage races, but also by the fact that language is not as essential to the expression of our physical wants as it is to the expression of the higher intellectual and moral faculties. Many deaf-mutes are able by natural signs to make their physical wants known without education in the sign language; but when it is required to enunciate *ideas* and *sentiments*, apart from mere physical wants, then education must supply a system by which these can be imparted. The language of savages is expressive only of the commonest wants of life, and all of their social intercourse might be carried on by simple natural signs in daylight, at least, but communicating in the dark requires sound, or touch.

Language is the natural expression of the intellectual powers. It is related to the three divisions of the face, inasmuch as the mouth, nose, and eyes are concerned in its expression. Speech is necessary, alike for the elucidation of mechanical, artistic, religious, moral, and mathematical ideas. I believe speech to be related to pulsation; forasmuch as language is naturally and necessarily divided into pauses, there must be synchronous action between the rhythmic movements of the heart and lungs and the natural accentuation and periodicity of syllables and sentences. In Chapter III, Part II, will be found further analysis of the voice.

Language and Music are very nearly related. The art of writing poetry depends greatly upon one's sense of rhythm, and rhythm is a musical attribute. Sympathy is another musical quality observed in language; harmony another,—that is to say, the harmony between what one says and what one means, for a good observer can detect the want of harmony between the language and the feeling to which it professes to give utterance. Ruskin beautifully expresses this idea in the following:—

> To teach the meaning of a word thoroughly is to teach the nature of the spirit that coined it. The secret of language is the secret of sympathy, and its full charm is possible only to the gentle. And of yet greater importance is it deeply to know that every beauty possessed by the language of a nation is significant of the innermost laws of its being. Keep the temper of the people stern and manly; make their associations courteous, grave, and for worthy objects; occupy them in just deeds, and their tongue must needs be a grand one. All great languages invariably utter great things, and command them; the breath of them is inspiration, because it is not only vocal, but *vital*, and you can only learn to speak as these men by becoming what these men were.

In this quotation, Ruskin shows that he comprehends the relation which exists between the character and the language of a race, and to the observer and thinker nothing can be more suggestive of the harmony of Nature than the investigation and analysis of the language and characteristic traits which are found in combination in a people. Men and language evolve together in the same ratio. As the Greek race developed its beauty, strength, and flexibility of mind and body, so the Greek tongue evolved its keenness, richness, power, and pliancy. The powers of the people and the possibilities of their language advanced *pari passu.* In tone, in compass, in harmony, in grandeur, will a race rise in the direct ratio with the upward march of its physiological and anatomical formation. Mark the Saxon phraseology so common to the English, its practicability, domesticity, its will, bluntness, straightforwardness, and monosyllabic veracity, and we find in it the picture of the people,—all bone and muscle, and square bones and round muscles at that. Carry the analysis further; observe the Celt; compare his emotional, witty, artistic, sarcastic, vengeful, variable and imitative mind and polysyllabic language, and we have his bodily image before us,—lithe, slim, flexible, handsome, rich-colored, restless and amusing, a blending in his anatomical make-up of small, round bones and supple, round muscles.

This analysis of form-development and correspondence of language might be carried to great lengths, and most of the characteristics of race be explained by a critical survey of its language, or *vice versâ;* a description of the language of a people might well be given from a scientific analysis of their bodily and facial peculiarities. This, of course, presupposes a knowledge of scientific physiognomy, for without this science practically applied such comparisons could not be instituted.

It is horse-physiognomy which the stock-breeder puts into practice when by the union of certain breeds he combines the traits of celebrated horses and produces by such union certain desired virtues. Were he ignorant of the meaning and locality of what are termed "good points" in an animal he could not produce the desired result, and no good breeder ever risks ignorance and expects excellent results,—that is to say, in horse-breeding. With his children it is different, for the "good points" which might be looked for in a wife he does not understand, and would probably care little for if he did. "There's *money* in fine colts," but no man sells his children, and seems not to care that a fortune should come with each one in the form of an intellectual or moral birthright. This might be the inheritance of many did man only possess the ambition and aspiration to become the progenitor of noble and perfected offspring. Surely, children are of more importance than horses, hogs, or calves; yet not the thousandth part of the care is taken to rear fine specimens of the former as there is to produce thoroughbred specimens of the latter.

In this age, as in ancient times, the nations which have excelled in muscular development have produced the best linguists. The majority of continental Europeans possessing a supremacy of the muscular system are excellent linguists, many of them speaking several languages. The English, not possessing as pliant muscles as the Celtic Europeans, and having heavy bones in combination, are quite inferior to the latter in linguistic attainments. The Americans, also, are not as capable as the Celtic races in this direction, yet have more capacity for learning and pronouncing language than the English, for the reason that their muscles are more pliant and finer, and have, in addition, a more sensitive nervous system, which assists the ear in distinguishing sound. Then, too, the European races possess the procreative faculty in a greater degree than do Americans, and, as this power is based upon the strength and integrity of the muscular system, they are more creative mentally; hence, able to learn and use languages with greater ease and facility. Singers learn languages easily, and most of the great musical artists speak several languages fluently. They depend upon the fine development of muscle in both cases for their ability. The integrity of the reproductive system leads to great solidity of the family institution.

FACULTIES DERIVED FROM THE BRAIN SYSTEM.

Comparison, *Causality*, *Reason*.—In the faces of all persons who excel as reasoners, such as jurists, statesmen, orators, naturalists, scientists, inventors, mathematicians, and chess-players, the nose is observed to be uncommonly broad and proportionately long. According to the law of harmony or of homogeneousness, there should be a corresponding proportional breadth of the body. Investigation and comparison of the physiognomies and forms of these several classes of persons prove this universal law of shaping. Not only is comparative physiognomy justified in this instance, but also comparative anatomy and physiology as well; for Nature declares that where the outlet of an organ is large the related organ itself is on a corresponding scale; hence, where the nose and nostrils are broad a similar form will characterize the lungs and digestive apparatus and produce breadth of body.

The reasoning powers are those that sit in judgment upon all the other mental faculties, as well as decide upon the qualities, conditions, and relations of all things in existence, and are used to comprehend the vast and complex chain of laws governing the universe. It is evident, then, that the base from which the sustenance essential to support so important a faculty is drawn should be a broad one,—should have its foundation broad and deep. Accordingly, we find in the persons of those who *excel* in reason a proportionate breadth of body, and this reveals the fact that the visceral organs are large, round, and strong; also, that the muscular and osseous systems are well developed. If to these anatomical conditions we add *high quality*, we have all the essentials for sound judgment, reason, causality, and comparison. The mind, to co-ordinate,—to grasp broad generalizations,—to comprehend vast schemes, as in the laws of a country or the laws of a universe; the ability to plan a great campaign, or the capacity for analyzing and combining grand and abstruse mathematical principles, must have breadth and strength in the body in order to impart similar powers to the deductions. A survey of the organisms of many English jurists and commanders, or of the majority of eminent scientists of all nations, will illustrate this principle. I would refer the reader to an examination of the portraits of the following-named persons as elucidating the law governing the reasoning faculties: Lord Mansfield, attorney-general; Lord Chatham, jurist; Leonard Euler, mathematician; Benjamin Franklin, philosopher; John Locke, philosopher; Sir John Herschel, astronomer; Baron Cuvier, naturalist; George Washington and Thomas Jefferson, statesmen.

The noses of uncivilized races and of undeveloped persons, as well as those of children, are deficient in development of the "bridge," while in adult life the nose, if it become well developed, makes a most decided and broad contour at this part, and in those persons where this formation is present we may expect to find the reasoning faculties well exhibited. In physiognomy, as well as in all of Nature's works, Form is self-revealing, and needs only to be interpreted according to its shape in order to have the correct meaning; hence, breadth of nose, of shoulder, or of body signifies power of some sort,—if it be only power of the muscles, or capacity for digestion, or for breathing. If to breadth of body Nature has added quality, then we find breadth of mind; in other words, the capacity for logical ratiocination,—for comprehending cause and effect. In those in whom the square bony system is in combination with a broad form inventive power will be exhibited, but where the head and body are round, made so by a combination of muscle and brain, we have the right conformation for reasoning upon mathematical, astronomical, and philosophical questions. In the first instance, we shall observe the long, high, broad, and bony nose, the nose of science and of mechanical invention. In the second instance, we shall observe the nose to be long, broad, and muscular. The mind, in combination with such noses, will possess the capacity for analyzing the *general* principles of systems, and by tracing effects to causes discover underlying laws. One individual thus characterized deals with the principles that move matter, the other with principles which exhibit mentality, and he seeks to connect cause with effect, and to trace the connecting links between motive and action. The physiognomies of Lord Bacon, Professor Tyndall, Professor Helmholtz, Michael Faraday, and Charles Darwin illustrate the former class, while the faces of Socrates, Sir Isaac Newton, Herbert Spencer, Sir William Herschel, and Dr. Gall stand representative of the latter class.

The development of the reasoning faculties among the masses within the last fifty years has advanced in an astonishing degree. As the great leaders of thought—those who treat of causation—give out freely to the world their theories and discoveries, the people, by the aid of cheap printing, read and accept their ideas, and thus become familiar with the grand generalizations of causal science as well as with the *facts* of life. This is doing much toward the uprooting of superstition and the development of reason, and has in many countries almost entirely supplanted mediæval superstition and bigotry. The environment of civilized man and his adaptation to it is not a more certain thing than that he is capable of comprehending the laws which control it, and until this is understood man falls short of his religious duty. To neglect the study of *causes* is to remain in childish ignorance To compare, classify, arrange facts, forms, substances, and from them to deduce the laws which govern and control them, is the power which distinguishes the civilized man from the savage. And in this connection let me say that the chief facial sign which distinguishes developed men from the undeveloped is the local facial sign for Reason, viz., height and width of the "bridge" of the nose.

The median line of the face from the chin to the forehead, by its height above the plane of the face, as well as by its fullness, reveals in its development the perfected man. The physiognomies of persons in all ages of the world who have been pre-eminent in every department of thought and action disclose this peculiar formation; and this determination outward and forward of the nose is one most decided evidence of the presence of reason and perfection of character in man. Comparison of the physiognomies of the leaders of thought in all ages shows the development in the median line of the face to be of about the same grade; from this we may conclude that the development of man mentally has reached its acme, and that further progress of the race will be in the *general* and *universal* improvement of the masses uniformly and universally.

Mr. George Henry Lewes remarks that "to know more we must be more;" hence, in order to rise to greater heights man must have a different environment and another sphere of action. The world as now constituted is suited to man as now constituted, and the one progresses and improves as the other advances, but always within certain circumscribed limits varying only in the development of different sides of human nature in different ages. Thus, the classic age brought the artistic faculties of mankind to the highest degree of perfection possible to man. The present age gives scope to man's greatest capacity for invention and for the application of natural laws and principles. Which side of human nature will be next presented for the perfecting process it is difficult to say. We thus learn that progress is the eternal law of Nature, and we reason from this that advance of some kind will be continued until every department of our nature has been so wrought upon and tempered by experience that perfect human beings must eventually stand representative of the imperfect, feeble, and diseased procession of creatures who are marching adown the ages in solemn, yet hopeful spirit, looking ever forward to the future,—"to the good time coming," which all see just ahead, and toward which all thoughts are turned, and upon which all hopes centre. The idea of ultimate perfection is ingrained and has its origin in the nature of man. It embraces cause and effect. Man is capable of advancing in reason and morality, and this tendency to improvability, being an ordinance of Nature, is intuitional in man, and those who are not sufficiently developed in reason to take a broad view of the world, past and present, and to classify and summarize the progress which is *apparent* to the thoughtful and observant, *feel* rather than *think* that perfection—human perfection—is the ultimate destiny of the human race. The two prime factors working to produce this condition are the faculties of *reason* and of *conscientiousness*. The two latest-acquired features of the human physiognomy are a perfected chin and nose, and these two features represent the local signs for two powerful traits, without which man would be only an ingenious and amusing animal, quite limited in his scope, even as a human being, and doomed to die out, as do all races and individuals who are not based on truth, conscientiousness, and morality; *e.g.*, soundness in their physiological construction, and withal a perfected kidney system. For Conscience, like Reason, is founded in the physical structure. Says Dr. Cross:—

> Life is not a spirit floating loosely among the organs, but is the perpetual produce of the vital manufactory within, while Nature herself is the assiduous and indefatigable operator.

The reasoning faculties increase in man in the ratio that physiological development and normal construction of the human organism advance. Health statistics and insurance-society reports show that the grade of health of civilized communities is higher than in former ages. This being the case, we may infer that the mental and moral conditions are changing for the better, and that reason will become more general; most especially as we join to this improved physical state knowledge of the wide-spread truths of the numerous sciences which are now being disseminated throughout the world. There are comparatively few independent thinkers,—those who think outside the groove cut by tradition and custom. Then, too, the majority are like sheep, always following a leader, who, possessed perhaps of no more knowledge than his followers, may have much more craft and audacity, and so gets a following who quote him and repeat on all occasions his senseless and incomprehensible jargon, which, from its mystery, is by them confounded with wisdom; for it is the custom of the unreasoning to consider as wisdom that which is incomprehensible. Many dislike to *reason* on the merits of a question which comes up in a family or in a society; women especially are disinclined to reason on abstract principles, for the reason that they have been taught that to *differ* with others in a *logical* way is "unfeminine," but at the same time will not hesitate to dispute violently over the shade of ribbon or the pronunciation of a word. Men are, in one sense, blamable for this state of mind in women, for they discourage all attempts on the part of women to argue logically, condemning as "unwomanly," "unlovely," "masculine," and "strong-minded" those who thus exercise the God-like faculty of *reason*. In this way an incentive is held out to women to suppress reason and to live more and more in the emotional nature, which has been already too much developed in them. It is time that a check be put to its further development. Reason should be cultivated by those who are desirous of being the mothers of *men;* for soft, gushing, sentimental mothers are surely not fit to train heroes nor to mold the mind of youth to noble and useful purposes.

Among men, too, this faculty is greatly needed, for I find that whereas among women the softer emotions are allowed to usurp its place in the conduct of life, so in man the stronger emotions, the passions of hatred, revenge, combativeness, and destructiveness are exercised in place of reason and sound sense. Indeed, men in many instances act more like children than do women. Mothers should cultivate in their children the propensity which nearly all youth exhibit of inquiring into the *cause* of things. Parents should read up on all subjects upon which their children question them, so as to be prepared to impart information. An interesting occurrence which took place in my own family may not be inappropriate at this point, and will serve to emphasize this advice. My son, aged seven years, one day heard some gentlemen talking about physiological subjects. He came to me with inquiries about the circulation of the blood, etc. Whereupon I took down a work on physiology and showed him a cut describing the localities and forms of all the internal organs of the body, such as the heart, the liver, the lungs, the kidney, the brain, etc. He asked, "Is that all of us?" "Yes, my son," I replied. "Where then does the soul lie?" he asked. For a moment, I was nonplused. Up to that time I had taken for granted that I knew all about the soul, but my son's question, direct and to the point, showed me instantly that I knew *nothing whatever* of it; so I replied, after some hesitation, "Well, I suppose God has it, my boy." He then asked, "What does God keep it for, if it is ours?"

Questions as deep and profound as this child's will be asked of many mothers, and they must be ready with *facts*, *knowledge*, and *positive truths*, if they desire to be able to train their sons to manhood aright. There is no better preparation for motherhood than a thorough knowledge of natural laws as elucidated by the several sciences. To train the conscience and reason in children is a grand work. It is said that the Rev. Lyman Beecher, the father of Henry Ward Beecher, drilled his children thoroughly in logical reasoning, and that when a question was brought up in the family he compelled them to reason it out to its conclusion; and it was remarked that a stranger coming into the house at such a time would have supposed the family quarreling, so earnest and interested became the debate. The education of the children by the mother can be made a source of education to herself, and, while she is leading her son or daughter to investigate the why and the wherefore of things observed, her own mind expands and reason develops by exercise. How much the present generation of scientists is indebted to the theological and metaphysical disputants of the middle ages it would be difficult to say; but of one thing we may be sure, that under the laws of hereditary transmission many of the present generation have received a logical impulse from ancestors who cudgeled their brains reasoning upon "foreordination," or "election," or who practiced mental gymnastics in wrangling over the theory of "phlogiston," or splitting hairs over the termination of a verb. I certainly feel somewhat indebted for my reasoning powers to my Scotch ancestors, who, in their adherence to Calvinistic doctrines, had abundant opportunity to develop the faculty of disputation. The application of logic, reason, and argument to things not important is a species of mental gymnastics; and, if during the dark ages the philosophers who used these faculties left no other legacy to posterity than a sharpened capacity for logical reasoning, they are surely deserving of recognition and gratitude; for this inherited tendency is now being used by scientific minds, the world over, in elucidating the laws and truths of Nature. Hence, we owe them thanks. They had their pleasure and enjoyment out of this faculty; we are reaping the harvest of utility and certain knowledge from this our royal inheritance.

Physiognomy, in acting the part of a benefactor to the poor, overworked brain, has done it a great service in surveying the field of mental labor and in assigning to each faculty a locality and a headquarters from which it derives its power. When scientific physiognomy divided up the faculties and lifted the labor of nearly all of these off the brain, where they had been placed by phrenology, it was found that there were very few indeed that could claim the brain as their exclusive seat and source. Even the reasoning faculties, which one might think should be classed as purely mental faculties, physiology shows that even these purely mental faculties (if any can be so distinguished) are indebted to a broad and normal development of all the visceral organs for the power essential to their highest expression. Yet, they do not require either a fine development of bone or muscle to assist in their operations, as do art and mechanics, but they do demand that there shall be a broad, strong and normal development of the visceral organs for their support, and for the exhibition of their highest excellence. This fact is undeniable; not only must there be strength, breadth, and normal action of these organs, but we must believe that a *high quality* of organization is also one of the essentials of such as are naturally endowed with large reasoning powers.

In many gifted reasoners—notably in the case of Herbert Spencer, who possesses all the attributes of reason—*quality* of a very high order seems to take the place of very great *size* or width of body. Indeed, we may say there are two diverse formations in which are exhibited great reasoning powers, equally talented and equally admirable. These two classes of reasoners may be recognized at sight by the mention of the names of two typical philosophers,—David Hume and Herbert Spencer, for example.

FACULTY DERIVED FROM THE BRAIN AND NERVOUS SYSTEM.

Intuition.—Very great differences in the capacity for discerning differences of states, conditions, character, and qualities are observed in the human family. Some possess the ability to comprehend at a glance the physical as well as moral and mental states of the individual under observation. Not only can they recognize these conditions instantaneously, but they detect with unerring accuracy changes which have taken place since last seen. In the matter of foods, fabrics, qualities of material objects and of natural growth, they seem to be able instantaneously or spontaneously to arrive at just conclusions in regard to their qualities, and their relations to their environment. In fact, they possess a faculty for "divining," as it were, conditions of all sorts which they observe. This is the faculty denominated Intuition, and is shown in that development of the body, as well as brain, of those who have inherited an intensified or highly-wrought quality of the mental and emotional nature. When we reflect upon the electric flashes of the mind under stimulus of great excitement, it will not seem at all mysterious if we find in certain individuals this same electric quality to be a *constant and unchanging condition*, an *habitual and natural state of existence.* This peculiar development is brought about in many ways. The history of genius and talent would, if sought for physiologically, unfold many laws pertaining to this little-understood faculty.

Intuition is the "seventh" sense, and should be ranked among the senses as a true and distinct one; not local, but diffused like the nervous system, which is its source and seat. This faculty derives its power either from (*a*) a particular shape and quality of the brain, (*b*) or from a peculiar quality of the nervous system, (*c*) or from an inherited high organic quality of the visceral organs and muscles. Where this faculty is exhibited in the *brain formation*, it will be indicated by a high and broad forehead, together with bright and large eyes, either large, round and convex, or large, bright and flat. The larger the eye, the greater is the expansion of the optic nerve, and where this nerve is greatly expanded and *sensitive* (as is shown by its brilliancy), Intuition—or, in other words, sensitiveness to external impressions—is the result. Very fine and clear skin and fine hair are corroborative signs.

The nervous system is divided into two parts: 1, the encephalon and the cerebro-spinal system, and, 2, the ganglionic or sympathetic system. The following description of the powers and action of these two departments of the brain system, by Dr. Dalton, will elucidate the subject. He remarks:—

> The cerebro-spinal system consists of an apparatus of nerves and ganglia destined to bring the individual into relation with the external world. By means of the special senses he is made cognizant of sights, sounds, tastes, and odors by which he is attracted or repelled, and which

guide him in the pursuit and choice of food. By the general sensations of touch and the voluntary movements, he is enabled to alter at will his position and location and to adapt them to the varying conditions under which he may be placed. The great passages of entrance into the body and of exit from it are guarded by the same portion of the nervous system. The introduction of food into the mouth and its passage through the œsophagus into the stomach are regulated by the same nervous apparatus; and even the passage of air through the larynx and its penetration into the lungs are equally under the guidance of sensitive and motor nerves belonging to the cerebro-spinal system. It will be observed that the above functions relate altogether to external phenomena, or to the interior of the frame. If we examine, however, the deeper regions of the body, we find located in them a series of internal phenomena relating only to the substances and materials which have already penetrated into the frame, and which form or are forming a part of its structure. These are the purely vegetative functions, as they are called, or those of growth, nutrition, secretion, excretion, and reproduction. These functions and the organs to which they belong are not under the direct influence of the cerebro-spinal nerves, but are regulated by another portion of the nervous system, viz., the ganglionic system, or, as it is more commonly called, the "system of the great sympathetic." *

It is observed that when the latter portion of the nervous apparatus is in an extremely sensitive condition it intensifies the power of all of the special senses, thus assisting very greatly the power for *perception* of all external objects. It is owing to this keen, vivid, and intense feeling that talented persons and geniuses are able to depict, portray, enact or create the great works of art and science which enrich the world. Intuition is one of the chief attributes of a highly organized mentality. The capacity for education which the special senses possess is shared alike by the Intuition. This faculty or sense can be equally developed until it sometimes assumes a degree of power which approaches the supernatural, and its effect is often in this condition mistaken for the manifestation of supernatural powers. Just to what extent this faculty may be developed it is impossible to say, but since in this age persons possessing singular powers are not persecuted and put to death for exhibiting them (as was formerly the custom) we shall probably be able to experiment and observe unhindered these peculiar and occult developments of intensified and rare organizations which are observed in all civilized communities. Sometimes this trait is exhibited in a musical genius; sometimes a great scientist startles the world by the discoveries which owe their origin to a large endowment of this sense. The world-renowned Pasteur, the discoverer of the "germ theory" of disease, is an excellent illustration of this faculty. The brain and nerve system is in him preeminent and of very high quality. Indeed, in all our investigations of superior persons, we shall find that an *exalted quality* of the nerves of sensation, of the organs of emotion, or of the muscles, is present, and is in them the main factor which causes an uncommon and high degree of excellence.

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* Dalton's treatise of Human Physiology, p. 518.

I would here suggest to the anatomist who wishes to immortalize his name that he undertake to trace, if possible, the course of connection between the organs and functions of the viscera and senses and the cerebral structure, taking the evolution of the five organ systems for his basis of investigation. He would do what no one has as yet been able to demonstrate scientifically and beyond all doubt.

For many centuries the Aristotelian theory of the circle held possession of the mind of the scientific world. It was argued that as the circle was the most perfect of forms it must hence represent the orbit or path of the celestial bodies through space. Kepler proved this to be an error, and from that moment astronomy advanced with rapid strides. This idea held captive the minds of men, and impeded for ages the advance of truth. The theory that the brain is the *sole* and exclusive seat of mind, intelligence, and mental sensations has kept back for years the knowledge of the true nature of man, therefore of *true religion.* If we desire to progress in knowledge of the truth of God's laws, of scientific and exact law, we must utterly repudiate and cast out such monstrous error, and henceforth regard the *entire* organism of man as the *seat* of his mind.

I will close this chapter by stating my belief that no one will rise from the perusal of its pages without, in some degree, modifying preconceived ideas as to the *rationale* of mental operations and the origin and locality of the mind.

The following exhibit shows the various organs and functions from which the several mental faculties derive their powers:—

1.	Firmness,	Osseous System.
2.	Conscientiousness,	Kidney System.
3.	Economy,	Glandular System.
4.	Love of Home,	Glandular System.
5.	Patriotism,	Glandular System.
6.	Benevolence,	Glandular System.
7.	Bibativeness,	Glandular System.
8.	Alimentiveness,	Intestinal System.
9.	Amativeness,	Reproductive System.
10.	Love of Young,	Glandular System.
11.	Mirthfulness,	Glandular System.
12.	Approbativeness,	Glandular System.
13.	Friendship,	Intestinal System.
14.	Hospitality,	Glandular System.

15.	Pneumativeness,	Thoracic System.
16.	Color,	Glandular and Arterial Systems.
17.	Sanativeness,	Glandular and Muscular Systems.
18.	Self-Esteem,	Osseous System.
19.	Modesty,	Skin and Nervous Systems.
20.	Force,	Muscular System.
21.	Resistance,	Muscular System.
22.	Secretiveness,	Muscular and Glandular Systems.
23.	Cautiousness,	Muscular and Glandular Systems.
24.	Hope,	The Liver.
25.	Analysis,	The Liver.
26.	Mental Imitation,	Nervous System.
27.	Sublimity,	Perfected Condition of the Mind and Body.
28.	Ideality,	High Quality of Brain, Muscles, and Nerves.
29.	Human Nature,	Fine Quality of Nerves and Muscles.
30.	Acquisitiveness,	Muscular and Visceral Organs.
31.	Constructiveness,	Muscular System.
32.	Veneration,	Osseous System.
33.	Executiveness,	Osseous and Muscular Systems.
34.	Self-Will,	Muscular System.
35.	Credenciveness,	Muscular System.
36.	Prescience,	Muscular and Nervous Systems.
37.	Form,	Osseous System.
38.	Size,	Osseous System.
39.	Observation,	Muscular and Nervous Systems.
40.	Memory of Events,	Brain and Muscular Systems.
41.	Locality,	Muscular System.
42.	Weight,	Muscular System.
43.	Language,	Muscular System.
44.	Music,	Muscular System.
45.	Time,	The Five Systems.
46.	Order,	Brain and Osseous Systems.
47.	Calculation,	Osseous and Muscular Systems.
48.	Causality,	The Brain and Visceral Structure.
49.	Comparison,	The Brain and Developed Visceral Structure.
50.	Intuition,	The Brain and Nerves.

CHAPTER VI.

THEORIES OF THE MODE OF ACTION OF CERTAIN TRAITS.

"No impartial judge can doubt that the roots, as it were, of those great faculties which confer on Man his immeasurable superiority above all other animate things are traceable far down in the animate world."—HUXLEY.

THIS age is peculiarly one of invention, of scientific research, investigation, and demonstration. The invention of the numerous and varied instruments used in the discovery of the laws and application of the apparently inexhaustible forces of Nature proves to us that there is nothing created in vain. Recent discoveries in light, color, sound, electricity, and the atmospheres are opening to us the most subtle powers in the great laboratory of Nature. Examine them as we will, destructive as many seem, they have each a use in the great scheme of Nature. Electricity is a creator and a destroyer; air tears down and rebuilds; the atmospheres tend to both life and death. The forces which seem beneficent act also a malevolent part. Why is this? Why does God permit sin?

These are questions which theologians have grappled with, unsuccessfully, for centuries. It is only the scientist who, aided by a persistent and intelligent "interrogation of Nature," can answer these questions. The invariable conclusion will be, that everything has its use and place in the world; that nothing is made in vain; that thunder and lightning are useful; that birds and beasts of prey are necessary. Even snakes, gnats, flies, fleas, and other destructive and annoying creatures have their use in the world.

So in the human family all those passions which, unrestrained and not balanced by justice and reason, cause destruction and suffering, are, in the present undeveloped condition of large numbers of persons, useful and essential to their preservation. Jealousy, revenge, suspicion, force, secretiveness, and conceit, all assist defective individuals in maintaining their lives, happiness, and property. None of these traits would exist in a hurtful degree were all persons born balanced; but as long as natural laws are ignored in the propagation of the race, just so long shall we have to contend with the sin and misery caused by defective, weak, or overforceful individuals. If a few generations were to live in accordance with a knowledge of "revealed religion," as shown by the laws of physiology; anatomy, hygiene, and physiognomy, and other divine sciences, they would almost regenerate the world, and sin—that is to say, unbalanced, defective beings—would soon cease to be propagated. We are in the transition state, moving from the lower to the higher. Human nature, like all growths, has its order of progress marked by laws which are unerring. It is our province and duty to seek these laws and apply them, in order to facilitate man's rise to that high and holy estate which is his destiny.

The first step toward this much-desired result must be to understand the meaning of the *forms* and *faces* about us; next, what causes produce them; and then to make use of this knowledge to create higher types. The only reparation we can make to the world for our failings is to assist in perpetuating a race which shall be as noble as the laws of science can create. Most persons love and propagate the race instinctively, without any other guide than their feelings in the matter. Is this worthy such an exalted character as the highest development of evolution claims for himself? The major part of the world live in their *instincts*, as do the animals, but *without the restraint* which holds the animal to the due observance of the law of his being, and which prevent him from making the stupid and miserable failures in modes of living, propagation, etc., which man, with all his boasted reason and freedom of action, is continually repeating over and over again.

How many persons, observing the action of love, jealousy, revenge, suspicion, secretiveness, self-conceit, and the like, pause to reflect for one moment on the laws or *rationale* of any of these passions or traits? None of these traits in excess are to be found in a well-balanced character; that is to say, where reason, intelligence, morality, and practicality are about equal. Of what use are secretiveness, self-conceit, suspicion, or jealousy, to such persons?

If we analyze the face of Washington and read his biography, we shall find that no such traits dimmed the splendor and nobility of his life. His countenance discloses an equilibrated condition of the five superior systems of functions, and the signs for quality, or a high condition of all his powers, are also observable. In such persons the petty passions have neither place nor use. Only those who are feeble or lacking in some respect exhibit any of the above-mentioned vices. As an illustration of this principle, I quote the following from Lavater. He observes:—

> I once asked a friend, "How does it happen that artful and subtle people always have one or both eyes rather closed?" "Because they are feeble," answered he; "Who ever saw strength and subtlety united?"

It is often argued that these passions are "human," and that as long as humanity exists we shall exhibit these infirmities. Now, had we never observed characters without such passions we might agree to this argument; but we find many persons (some distinguished, others unknown to fame), who have happily inherited well-balanced organizations, destitute alike of weakness and vices, and these are certainly as "human" as the others. I firmly believe that if religious people would, for one generation, pay as much attention to the right generation of their offspring as stock-breeders give to improving cattle, we should succeed in *breeding out* many moral defects, mental weaknesses, and physical blemishes. A knowledge of the human face is the first essential to this end. A stock-breeder comprehends all the points of a fine horse before he endeavors to improve its progeny. He also understands what combinations to make in order to produce superior animals; in fact, he studies the *physiognomy* of the animals; that is to say, the meanings of their size, form, color, quality, and proportion, and how to combine them to produce certain desired results. This is done by the exercise of his observation and reason. Is it not quite as important that the same faculties should be used in the improvement of the human race?

According to my way of thinking, there can be no higher religious act than the endeavor to create a human being on improved or scientific principles. The mass of humanity are at the present time living in utter ignorance of themselves. They do not know the meaning of one single sign of character in the face. They do not comprehend the signification of the form, size, color or quality of the nose, the mouth, the eyes, the chin or forehead. They are unable to judge with certainty of the character exhibited in the walk, the voice, the gesture or attitude of those with whom they associate. Most persons attach no importance to such matters, and if the subject is brought to their notice they conclude that, as they extract no meaning from such phenomena, it is impossible for any one else to do so. And yet they understand thoroughly that the shape of the fox, for example, denotes slyness; that of the lion, boldness and strength; that of the hare, timidity; and that of the greyhound, fleetness; but seek not to extend and apply these physiognomical appearances and principles to the human family, where they can be most efficiently used in upbuilding the human race.

The bases of the several passions and their methods of action are as little comprehended as are the signs in the face. The *rationale* of the love of the sexes, of jealousy, suspicion, conceit, etc., seem to be very imperfectly understood. The following analysis and description of the action of amativeness, or sex-love, will enable the reader to form a more just and comprehensive view of this important faculty and function:—

ANALYSIS OF AMATIVENESS.

Love, or Amativeness, is the fundamental faculty of the human organism. Like other faculties, it has its physical and mental aspects. Just in proportion as the *sentiment* of Amativeness, or sex-love, is found developed in an individual shall we find that the functional capacity for reproduction is present in the same degree, and this correlation of physical function with mental faculty obtains throughout the entire range of character, not only of the human organism, but it inheres also as a principle in the Animal Kingdom.

In its normal development, it is the most beautiful and conservative of all the traits. It binds together hearts and homes, which serve to make the foundations of society and government sure. Like all other faculties, it is manifested in different degrees and manner by each individual. The location in the face is in the chemical or moral group, and in close proximity to Love of Children, Mirthfulness, and other domestic faculties.

When possessed in a large degree, in combination with Constructiveness, it is most potent in producing the varied kinds of creative talent and art; and all who have excelled in the originating of ideas in every department of literature, in sculpture, in painting, and in dramatic representation or fiction,—in short, all those who have shown themselves *creative* to any great degree,—have possessed the *procreative* power in their physical organization in a marked manner. Exhibited largely, and with a moral balance, it makes the man very much of a man, the woman very much of a woman; and such persons will be more influential in their community than those deficient in this faculty. The latter are the small and impoverished characters one meets with, each hating the opposite sex,—being hated in return; and this arises from the fact that they are not sufficiently *sexed* to appreciate their opposites.

This faculty, exhibited in its physical development, without a balancing degree of Conscientiousness, leads to licentiousness and a violation of Nature's laws, and these are sure to entail suffering on its possessor and on all who come under its influence. This should warn us to observe the law of Nature in regard to the *normal use* of this function, for every function has a law for its government and protection. Each should seek this law for himself, since that law which may be binding on one does not necessarily involve every organization; although the seventh commandment should be binding on all. Each has a law peculiar to his own organization, which should be religiously observed. Indeed, religion should commence with the perpetuation of the race. I refer now to that religion which is the living up to natural law, and which if rightly understood and observed, as the laws of physiology and hygiene teach, would soon give us a race born under the law of true religion, that would become a blessing to themselves and to the world at large.

There are as many kinds of love as there are persons in existence, hence the variety of its manifestation. Some undeveloped characters exhibit only the lowest form and seek only the physical enjoyment of this trait. Others, better endowed, illustrate by their disinterested acts toward the one beloved the highest manifestation of this passion. The physiognomy read scientifically will reveal just what *kind of love* the individual has to offer. Persons with a large degree of this function and faculty are highly magnetic, and are enabled to attract those of the opposite sex spontaneously and without effort. There is no doubt but all of the faculties which derive their power from physical functions have each a magnetic or attractive quality which calls forth a response *in kind* from others similarly endowed, or who are susceptible to that particular attraction. Friendship attracts friends, Love begets love, Love of Young meets with a spontaneous recognition and return from children, and Benevolence recognizes a similar spirit and responds in unmistakable language. These attractions are mutual and instant, without premeditation or design, and often not at all understood by those affected by them. Most especially is this magnetic quality possessed by those who have a fine muscular system. Such persons possess capacity for healing, and are especially adapted to promote health in others by the system of rubbing denominated the "Massage." This faculty is never present in those in whom muscle is greatly deficient. I have, myself, in sickness, experienced the benefit of this gift at the hands of a woman who was not cognizant of her power. I was relieved entirely and restored to health by rubbing and manipulation of my body, when medicines and physicians failed utterly to restore me. The most enlightened physicians now recognize "Magnetism" as one of the remedies of Nature, and often order its application. I have observed several men and women who possessed the attractive power which is evolved from a large development of Amativeness, who seemed to possess this faculty in this large degree as a compensation for the *absence of all moral qualities.* These persons were able to fascinate almost any one of the opposite sex, and were really so dangerous and unprincipled in the use they made of this power that many parents withheld their youth from associating with them. In almost every community there are some of both sexes thus endowed, and it is right that in the interests of morality physiognomy should unveil them; although this class of persons soon make themselves understood, yet often not until they have destroyed the happiness of numbers.

One of the laws of human nature is, that the stronger the faculties possessed, the greater the inclination to use them. Thus by observation of the face of an individual we easily discern which powers are dominant, judging by those signs which are the most pronounced.

The normal action of Amativeness is to make men and women more manly and more womanly. It gives them the desire and knowledge of how to attract and win the esteem of their opposites in sex and makes them attentive, agreeable, and fascinating, tender and loving in a pre-eminent degree, and is altogether the most important faculty, by reason of its creative power and its wide-spread influence upon the life and happiness of the entire human family, both civilized and barbarous.

ANALYSIS OF JEALOUSY.

Jealousy is commonly thought to be the necessary accompaniment of love and a proof of its presence. A scientific analysis of this passion shows it to be the result of an *unbalanced condition.* Wherever we find practicality lacking, or where the reasoning powers are not active, we shall find this trait running riot. Persons with small self-esteem are also subject to this passion. They are so constantly depreciating themselves that they naturally and instinctively infer that *any one* else is preferred to them; that is, they *feel* it to be so. Of course, they do not reason upon it, not understanding the philosophy of this trait, and not knowing, either, where to locate it in the face.

Unbridled and unbalanced will produces Jealousy; so also does deficient reasoning power, as well as a lack of conscientiousness. In almost all cases where the practical faculties are lacking, we find a large share of this detestable trait. The individual thus endowed cannot perceive the meaning of certain acts and words, through lack of reason to comprehend the connection between them; hence concludes that they are adverse to his interests, and Jealousy is the result. For, as Shakespeare phrases it, "Jealousy is the green-eyed monster which doth mock the meat it feeds on," and, "Trifles light as air are, to the jealous, confirmations strong as proofs of holy writ."

The jealousy born of sex-love is not the only phase of the passion exhibited by unbalanced and defective organizations, but it is also found excessive in the character of artists, actors, singers, athletes, rowers, swimmers, wrestlers, and all who compete for honors, fame, and public applause. The reader will, by reference to the above-named classes, remark that Jealousy is more active in those persons in whom the muscular system is dominant. This is one proof that the grade of evolution, which the dominance of this system illustrates, is not so perfected nor so finished as where the osseous system is well developed, and this fact of *comparative* undevelopment is the fundamental reason why Jealousy is so rife among these classes.

Jealousy is both an animal and a childish trait, hence a trait of undeveloped natures. Children, through lack of sufficient reason, judgment, or perception, are unable to distinguish the differences which exist in conditions and persons, therefore the *motives* which actuate those with whom they associate in their treatment of them are not comprehended by them, and Jealousy is often the result. Now children, like all the muscular classes above enumerated, depend largely upon the faculty of *Approbativeness*, and this desire to meet approval is one that is very useful and essential in the unfolding of the youthful mind. It is often taken advantage of by parents and teachers to stimulate to unreasonable activity all the powers of the child, both mental and physical. Where it is too much developed or drawn upon, the consequence is jealousy of others' efforts, while selfishness, conceit, or other like pernicious and disagreeable effects are engendered.

In actors, actresses, opera-singers, and athletes the action of Approbativeness is so excessive as to occasion much unhappiness, and often engenders petty struggles and wordy warfare, as all know who have mingled much with them. And as Approbativeness is a trait quite active in childhood, these classes of persons resemble children in this particular.

The animals in which Jealousy is most developed are also those in which the muscular system is supreme, as, for example, the tiger, the panther, the leopard, the hyena, the cat, and the ape tribes.

Again, another evidence of lower grade in evolution or development is shown in the fact that those classes of persons and animals in which the muscular system is dominant as a rule exhibit also the dominance of the biliary system over the heart and lungs, and in the order of the evolution of organs and functions the biliary system is evolved before the heart and lungs, hence is not indicative of as high a grade of development as where the heart and lungs are relatively more powerful.

The muscular animals, then, it will be observed, are not so highly organized as the bony animals, or those in which the osseous system is in excess of the muscular, as, for example, the horse, the camel, the dog, etc.; and although these animals sometimes exhibit Jealousy, it is never so deep or lasting as with the former class, and some among them seem to be entirely free from its influence.

From the above analysis, we find that Jealousy is a product of a peculiar physiological and anatomical organization. It may proceed from one of three causes: (1) from a lack of that grade of evolution which is exhibited in the osseous system; (2) it may proceed from the relatively greater development of the biliary system than that of the lungs and heart; (3) it may be the result of disproportion between the several faculties, as, for example (*a*), defective reasoning power, (*b*) absence of practicality, (*c*) lack of conscientiousness, (*d*) lack of self-esteem.

Whatever be the cause, it can be very considerably modified, and, in some cases, almost eradicated, by an intelligent understanding, together with an earnest desire to improve and perfect the character. If man were not the most malleable creature in existence this knowledge would be of little use, but, as the laws of adaptation are paramount in him, he, better than any other organized creature, can bring himself into harmony with his environments, and can modify and eradicate often the hereditary defects and peculiarities which have been transmitted to him.

Let reason, then, be cultivated, and love and compassion also, and when one is inclined to be jealous of others let him subject himself to a course of self-examination, and this will soon put to flight such wicked and unjust thoughts and passions as Jealousy creates. Let him reflect that it is a *standing menace* and insult for one to be constantly jealous of another. It is a most dangerous and destructive passion, and leads to utter demoralization of all that is good and noble. It is the father of persecution, of misery, and of unspeakable suffering, and often ends in murder, suicide, and madness.

Jealousy is sometimes the cause of serious physical disturbances, and these disturbances are proofs of the physical bases of the sentiments. Strange that so many years of observation of the serious pathological changes wrought in the visceral organs by the overindulgence in Jealousy and kindred passions should not have taught physicians the locality of the mind and the sources whence each mental faculty derives its functional support, particularly as we have, as Cuvier remarked, "all the various tribes of animals, which are so many experiments ready prepared for us by Nature."

Physiognomists must always refer to the animal kingdom for verifications and explanations when anything seems obscure in the human subject, for the methods which Nature has pursued in the course of evolutionary development are common to both the animal and human kingdoms, and the best way to trace phenomena is to look for its meanings in the primary or primitive state of development; thence, by tracing it along up the line of physiological unfoldment, we arrive at its final and full meaning when we observe its action in the human being confirming or coinciding with its appearances in the animal.

ANALYSIS OF REVENGE.

Revenge, like its kindred passion, Jealousy, is more largely developed among the dark races than among lighter people, for, as in the animal kingdom, the darker the skin, the less developed the organization. So, also, is Jealousy more active when found among dark-skinned people, with dark or black eyes. I have never seen this trait in excess in a well-balanced organization. We shall often find it large in those whose will is in excess of reason and justice. Their "will is law" to them, and when they cannot enforce it upon others they seek to be revenged, believing that they are wronged. In some a deficiency of the practical faculties will cause this trait. This defect prevents the possessor from seeing the acts of others in their true light, and he consequently thinks himself an injured individual, and meditates revenge for his supposed injury. This trait is found most active with muscular people, especially if they be dark, and is often accompanied with a large degree of secretiveness.

Revenge, vindictiveness, malice, and spite are four forms of the same trait, manifesting their several variations according to the grade of development as to color, race, and traits which are found in combination in the individual. The darkest races of the uncivilized tribes, such as Indians, Malays, Mongols, and the African races, manifest the strongest degree of this destructive faculty. Among civilized people the Celtic races exhibit more of this trait than do the Anglo-Saxon races. More particularly is the deepest phase of Revenge prevalent among the Italians, Spanish, and Portuguese than it is among the French,—a lighter branch of the Celts.

Among the French this trait exhibits more of the character of malice and spite, especially among the common-minded, while the educated indicate its presence by wit and sarcasm in writing and speaking, which is its last and most refined expression. The sign for spite, as well as for vindictiveness, is commonly observed among the lower classes of the French; often, too, among the undeveloped Irish it is observed. Sometimes we find this sign in the faces of Germans, English, and Americans, yet it is infrequent as compared to the first-mentioned classes. When we ascend from the dark muscular races to the light osseous races we find occurring important modifications of all the more destructive and immoral traits, for, inasmuch as bone and light color are an advance, physiologically and anatomically, upon muscle and dark color, so are justice and reason, which are more characteristic of the former, generally, than of the latter. So we must expect to find a more mild, placable, and reasonable method of action obtaining in the more developed character. How many times must I repeat that mind is only a question of physiological and anatomical formation? Mind inheres in every atom of the world. Certainly it must have its beginnings in the mineral kingdom, for all later growths are sustained by the nourishment derived mainly from mineral sources and mineral constituents, such as lime, carbon, soda, etc., which are found in varying proportions in every plant and animal organism in the world.

Revenge, then, it will be remarked, results from either general undevelopment, as in the case of the Indians, the Africans, the Malays, etc., or else is the result of a lack of equilibrium or balance in the faculties of Reason, Conscientiousness, or those of Practicality. One or more of these may be involved in the production of this destructive trait.

The question why God permits sin finds its solution in the analysis of unbalanced characters. The predisposition to breaches of morality is the result primarily of deficient organic construction of the body, and this comes directly from ignorance on the part of parents of the right methods for improving progeny. When we see people intermarry whose ancestors are known to be possessed of consumptive, insane, or nervous tendencies, we may surely look for immoral, weak, imbecile, and defective offspring, with unbalanced tempers, unbridled wills, or with wills so weak as to constitute moral imbecility. *God works by Law*, and people create immoral monsters by ignorantly or willfully violating natural law. Man creates sin by the help of the chief devil, Ignorance. Sin is simply undevelopment primarily.

The selfishness of man also assists in creating sin. When a man or a company of men rob the laborer of the interest on his labor they commit sin, and one which will surely be followed in *this life* by retribution. The *sin of greed*, if practiced on a large scale and made offensive to a large number of the community, will right itself after it becomes unbearable; for society goes forward by fixed law,—by evolution,—and it is with society as with the stomach. When abused by overloading and gormandizing it throws off the effete and destructive matter and a state of calm healthfulness pervades the body. Just so it is with the body politic. Witness the American Revolution of 1776, and the French Revolution of 1792. And we may look to the coming years of this century for a grander revolution than the world has ever witnessed, for the *sin of greed* has about gone its length, and will, like a fever in the human body, burn out its own vileness. A condition of *enlightened self-interest* is what must ensue before humanity can become civilized, and in order to bring this about a scientific analysis of the individual members composing society must be had, and improvements attempted on an individual and scientific basis—scientific because according to the laws of Nature, which are the laws of God.

By the chastening hand of destiny the wrongs of society are avenged; but Revenge, in the old Mosaic sense of "an eye for an eye and a tooth for a tooth," seems to our enlightened sense an animal-like method of proceeding, and not calculated to improve our sense of justice. "The whirligig of time" often makes all things even. It is better to leave injuries to time, to the chances and changes of life to right, than to endeavor to revenge them. As a rule, in this world we reap what we sow, and those who are engaged in sowing the seeds of malice, spite, and revenge, in the long run bring just punishment on their own heads.

No person of noble or balanced character seeks to be revenged for wrongs done him; yet many of the noblest are often foully dealt with, for "Envy loves a shining mark." It is only ignoble, unbalanced, animal-like people who seek revenge, and this trait, like jealousy, proceeding as it does from those who are defectively organized, needs no reality to spur it on to action. Suspicion, the most unfounded, is often its only basis. Ungoverned will is one of the incitants to revenge. Look at it as we will, we shall find ignorance or undevelopment at the bottom of all revengeful desires. Children who show a propensity in this direction should be carefully trained with the view of eradicating it. The conscience should be cultivated and appealed to as well as the affections. Reasoning upon the dreadful effects wrought by revengeful persons should be presented to their minds, and all right methods taken to raise, cultivate, and develop the moral status of such unfortunate children as have inherited this dreadful trait from their ancestors.

ANALYSIS OF SECRETIVENESS.

Whenever Secretiveness is observed in an unusual degree in an organization we naturally infer that there is something to conceal, something deficient for which Secretiveness is the compensation. Secretiveness is the fine veil which Nature gives to hide a defect in either the mental, moral, or practical part of the organism. Some beasts of prey possess this faculty in a large degree. This is their normal condition. Having no mental or mechanical powers, as has man, to assist in procuring food, this faculty is needed by them for this purpose: Tigers, wolves, cats, foxes, opossums, and all animals with the muscular system predominating, are most largely endowed with this propensity. Like its kindred passions, Jealousy, Revenge, and Suspicion, it proceeds from a want of balance in the faculties; a lack of proper development of the reasoning faculties, Causality and Comparison, will produce it; a deficiency in Friendship or Human Nature will cause it; but wherever it is manifested one or more of these deficiencies will be found. Want of common honesty and uprightness of intention is sometimes the reason that Nature has provided this veil to assist the unfortunate possessor in making his way through the world. Secretiveness is given to animals to enable them to both avoid and prey upon each other. Many persons having this trait are often considered very wise, owing to the careful and deliberate manner which they use in conversation. It is well that Nature has put this check upon their tongues; for if reason, justice, perception, or friendliness did not accompany the utterance of their thoughts, they would inevitably be led into more trouble than they could easily extricate themselves from; hence this check. Some mistake cunning or craft for wisdom. With persons in whom Secretiveness predominates the flexor muscles are more active than with others, and a constricted state of the bowels and glandular system takes place in consequence of the effort made to *hold in*, as it were. This unceasing desire creates a constricted state which if too long continued sets up a diseased condition, particularly affecting the liver, causing biliousness, jaundice, and other derangements of the liver.

The physicians of Jay Gould, the great financier, have declared, I am informed, that his recent illness was owing to his secretiveness, and that his endeavor to keep his plans secret made such inroads upon his health as to threaten his life unless he relaxed somewhat his accustomed habits in this respect. Many very secretive persons are affected with disorders of the liver; so also are revengeful characters. These emotions affect this gland, as well as the secretions of other organs. I have known very undeveloped persons who were accounted very wise in their community simply by reason of their excessive reserve caused by Secretiveness. Not being able to fully comprehend the import of questions addressed them, they would refrain from giving satisfactory answers, thus concealing their intentions and deluding those about them, and conveying the idea that they were uncommonly wise. Men who are very able mentally and developed morally are able to instantly comprehend and meet with mental resource any proposition presented to them; hence are able to answer in a manner suited to the occasion. By using discretion and judgment in their conversation, they have no need of undue secretiveness.

Secretiveness in excess always stamps itself unmistakably upon the countenance, and the more its possessor endeavors to conceal his sentiments and character the more noticeable and prominent the signs become. As soon as one discovers uncommon secretiveness in a character, let him ask himslf for what is it the compensation? In almost all cases he will find that either the practical and observing faculties are deficient, or the reasoning powers lacking, or conscientiousness at a low ebb. Sometimes one or more of these traits will be deficient in an individual. I have known two persons in whom this was the case, yet both preserved great integrity and honesty of character. Another subject possessed of excessive secretiveness, who came under my observation, exhibited extraordinary executive and mechanical abilities, but was deficient in the power for abstract reason as well as conscientiousness, being sly and untruthful; yet this man passed for a very wise man, and his friends often remarked, "Oh! Jones is a very bright fellow; you never hear him talking." If I am not greatly mistaken, it is the "bright" men who disclose their brightness by what they say and do rather than by what they don't say or omit doing. Certainly a dumb man could not make his intelligence evident if he took every precaution to hide it by never expressing his thoughts in any way.

When very secretive persons are led by any sudden burst of emotion to unbosom themselves, as it sometimes happens, their revelations are perfectly astounding. They will reveal such things as no man of average common sense would speak of, thus evidencing that a lack of *judgment* or a lack of *principle* is the cause of this *check* which Nature has put upon their tongues.

One peculiarity of secretive people is that they will seldom speak of even the most ordinary matters in the presence of several others, but sometimes, with a friend or two at most, they will disclose their thoughts and plans to those whom they trust; and those possessed of conscientiousness trust those whom they have proved, but the sly, untruthful, secretive individual seldom trusts any one. He judges others by himself and *suspects* every one about him. This is the most hopeless kind of secretiveness. The reader may set it down as good, physiognomical law that Secretiveness is intended to conceal something, else it would have no place in the human organism.

Nature always endeavors to establish a balance in the mental as in the physical department of man. Equilibrium is the law of Nature everywhere, and when an individual comes into existence weighted with an undeveloped organism there is always a sort of equilibrium attempted, otherwise the machinery of the mind or body would not work, and when the equilibrium of mind is destroyed, insanity or idiotcy is the result. If the equilibrium of the body is destroyed beyond repair, death ensues.

The facial signs for Secretiveness will be found in the mouth and eye, and these two features are evolved from, and are representatives of, the glandular and muscular systems. Nature seems to be so anxious to assist in revealing her meanings to us, that the sign for every function is seated within the system which sustains it. And this is yet another method employed by Nature for making her meanings known.

THEORY OF SUSPICION.

One reason why one suspects the action and speech of others is because he does not possess sufficient reason to enable him to comprehend motives, or he does not possess sufficient perception to judge of the intentions of others by their acts and language, and attributes to them quite different motives than those which have really actuated them, and therefore substitutes his suspicions. As in the other traits previously mentioned, he may possess so little honor or honesty as not to be able to comprehend it in others, hence suspects they are moved by motives similar to his own; but whatever produces Suspicion, a defect will always be found in the organization as the exciting cause.

Suspicion, like revenge and jealousy, is primarily a defect in the physiological elements. Very often a lack of coloring matter in the system is the cause of that lack of soundness, of integrity, so to speak, of all the senses as well as of the brain, which prevents one from observing accurately and reasoning soundly upon what transpires. This trait is, I think, more general among very light-eyed persons, particularly those possessing eyes the color of a peeled onion, for I cannot describe this peculiar sort of eye more accurately. The cause of this deficiency is found in the absence of coloring matter in the system, and want of pigmentary substance prevents the senses, particularly those of sight, smell, and hearing, from being as perfect as where integrity and soundness of all the senses are present. This condition is created by a due admixture of coloring matter furnished by the fluid system to the glands and ducts, whose office it is to carry to the several parts of the system the sort of nutriment which is charged with the pigmentary substance observed in the ganglia of the olfactory, auditory, and visual nerves. Not only are these several senses deprived of their due proportion of coloring pigment by this abnormal action, but the entire nervous system, including the brain, is relatively weak by reason of absence of that degree of power that normal color affords.

Other parts of the system remote from the senses sympathize when deprived of that quality of soundness which color alone can give. The kidney system is often enfeebled by this condition, as well as the reproductive system. The correlation of color with functional strength and weakness is beginning to be understood by naturalists. Darwin makes special note of it in his works on "The Origin of Species," and in "The Descent of Man."

Reference has been made in the section on Color to the defective visual, auditory, and gustatory senses of Albinos. This class of persons are always weaker in their senses, as well as in their intellectual ability, than those who possess average color, and this is caused by absence of color. Not only are they deficient in coloring pigment in the several ganglia of the senses, but they are lacking in color in the arterial system as well, as is evidenced by their pallid complexion, pink or light eyes, whitish hair, white eyebrows and lashes. Such persons constitute morbid varieties. Can any one explain why the absence of color in these people affects their mentality, except upon the ground that mind inheres in the entire organism, and that mind and body are one and indivisible? The proofs which Nature offers on this point are overwhelming, and cannot be explained away.

Suspicion is not the attribute of noble, intelligent, and highly moral people, but belongs to those who are in some way *defective* in some part of their being. A knowledge of physiognomy alone will reveal what this defect is and where its evidences are situated.

This analysis of color and suspicion teaches that the production of color is a religious duty, a duty which we owe not only to ourselves but to our offspring; those who are to inherit our individuality. When I see women who live in homes with the windows constantly shrouded for fear of a stray fly or a faded carpet, and whose faces resemble in color a turnip-sprout in a dark cellar, I believe them guilty of immorality; for whatever vitiates and deforms the physical powers acts directly upon the moral status, and if colorless women produce colorless children (as they are quite likely to) they depreciate the mental and moral power of their offspring in an intensified form, for inherited weaknesses are always intensified and show at an earlier age than where they are acquired in other ways. In order, then, to prevent unbalanced, suspicious persons from being born, people should refrain from intermarrying with those devoid of color in the skin, hair, and eyes. Parents must live in accord with divine law, and open their homes to the influx of sunlight and fresh air, and thus, by coloring the blood properly, the integrity and soundness of all the tissues will be enhanced and suspicious persons will cease to be perpetuated.

Noted criminals are usually very suspicious, and the theory I propound, of the direct relation between defective moral traits and defective physical functions, finds in the criminal classes its exemplification and verification. Elsewhere I have given the reader the evidence of prison surgeons as well as the experience of Dr. Maudsley (whose knowledge of insanity is quite extended), as to the lack of physical soundness of the professional criminal classes, and this evidence corroborates my theories on the correlation of the moral and mental faculties with the physical functions.

The study of the insane reveals the fact that Secretiveness is a prominent trait among them as well as of the criminal classes. Physical defects observed in the insane give a clue as to the cause of their mental degeneracy, and so long as people are born unbalanced in their physiological structure, just so long shall we have suspicious, criminal, and insane characters perpetuated.

We cannot dodge the issue; if we desire to become pure, noble, and religious, we must eat, drink, sleep, exercise, and rest in accord with hygienic law. If we desire noble, unsuspicious offspring we must build them upon improved principles, taking natural laws for our guide, and ignoring the animal-like and instinctive methods of propagation at present employed in all the civilized as well as uncivilized races; and herein is a most ludicrous parallel between those who consider themselves highly civilized and the lowest Hottentot in existence. They both perpetuate the race upon the same low plane of animal instinct or lust. All the boasted reason, culture, and high development of the most civilized seem not to have lifted them in this particular one degree above the very lowest. It is only when animal propagation is intended that man uses his boasted reason and culture. To improve animals by design and law seems to him the right method to apply, but the rearing of his offspring he leaves to chance, to lust and ignorance. No wonder, then, we have our jails, penitentiaries, hospitals, and insane asylums filled to overflowing with the results of animal lust, ignorance, and vice. Our stables, dairies, poultry-yards, and kennels shine by comparison with our homes. Why? Because design, cool reason, education, and natural law have contributed in the latter case to the improvement of species, and in the former ignorance, lust, neglect, animality, and defiance of law have filled every community with criminal, vicious, imbecile, defective, deformed, and sickly beings, who stand as frightful examples of man's utter ignorance of the meaning of *religion.*

ANALYSIS OF ANGER, WILL, TEMPER

Let us examine these three phases of a trait which is truly a hydra-headed monster, manifold in its motives and action. Most phases of anger are detrimental to mental power and destructive to health. Only what may be called "righteous indignation"—that is to say, the indignation resulting from perceiving an infraction of the laws of justice or morality—is ennobling to the individual and conduces to strengthen both health and moral perception. This is the legitimate use of anger, and it should be reserved for such purposes. To become enraged at animals is at once wicked and stupid, and serves to show the superiority of animals to man. Nothing indicates the coward more than cruelty to our domestic animals, who give us faithful, gentle, uncomplaining service, and often die in harness while working for our benefit. The law justly takes cognizance of such treatment. These creatures are of our own flesh and blood, and we are not their equals in some things, although we may possess some qualities which are superior, but treating them cruelly and inhumanly is not the way to prove it.

Those animals and men who are capable of exhibiting the greatest degree of anger or will are those in whom the muscular system is dominant. The part of the system which is called into action in the expression of most phases of anger is the muscular, and in its ultimate effects results in the use of the muscles by inflicting blows, and in the use of the muscles of the organs of speech in wordy warfare. The classes of animals which are most given to the destructive use of their angry passions are the carnivorous animals, and in all these the muscular system is paramount; hence we look to that system as the source of anger, will, or temper, as it is variously termed. Vegetative animals also give way to blind rage.

Persons in whom the biliary system predominates over the thoracic are more given to exhibitions of ungovernable will and temper than lighter-colored persons. Color indicates heat, and heat gives power and activity to the organs. A dark man, with the muscular system in the ascendency, will show more destructive temper than a light man of the same build. Here too much color acts as injuriously as too little color, producing undevelopment of certain faculties and functions. Self-will is a faculty derived from the muscular system, and when this faculty is in excess of Conscientiousness and Reason an unbalanced degree of selfish, unreasoning desire is present. Here the muscular system, being in excess of the osseous, creates a disparity between the will and Conscientiousness, and unbridled and often vicious will is the result.

Many criminal faces that I have examined exhibited a defiant, scowling expression and the sign for Self-will very large. There are many persons who are not ranked with criminals who exhibit terrible will-power, and in their intercourse with their family and friends create great suffering. Many mothers, in their foolish fondness for their children, cultivate in them this faculty to an abnormal degree, and often live to regret it. Where this faculty exists in childhood in an excessive form, the parents should endeavor to *level up* the other traits of character by appealing to the reason, to the sense of justice, and to the affectional nature of the child, in order to establish a *balance* in the several departments of the mind. Laws of all kinds, both natural, statute, and social, should be drilled into such a disposition, and in childhood a sense of *responsibility* of the individual to laws, rules, and regulations should be made most impressive. In this way only can such unbalanced dispositions be benefited.

Like other evil passions, the indulgence of temper leads to serious physical disturbances, and I have known of a very willful girl who became jaundiced and turned a greenish color in one night by giving way to her temper when opposed in her vicious desires. Aside from the deleterious effects upon themselves, the possessors of ungoverned tempers do great injury to innocent people and often make them the victims of this debasing passion. Murder, suicide, and madness frequently result from overindulgence in temper, and mothers inflict irreparable injury upon unborn offspring by allowing themselves to give way to paroxysms of anger while pregnant. Murderers can be bred as well as moralists, by direct act of the mother's mind, as is well known. An instance of this immense power which the mother wields over her unborn offspring is noted by Mrs. Lucinda B. Chandler in her tract on "Motherhood." She observes:—

> An instance recorded, only more marked than many that transpire, illustrates the effect of strong emotion or passion. A husband so offended his wife that she did not speak to him for three months previous to the birth of her child. The child could never speak to his father. An attempt to do so would cause violent paroxysms, and, though he remained at home and carried on business with his parent, he was obliged to turn his back upon him and speak as if addressing another person. Now, if by reason of irresistible desires, powerful impressions, or strong emotion, the body can be stamped ineffaceably, or mental action determined over which the person has no control, can it be a question that upon the moral nature the more highly sensitive spiritual tablet impressions as deeply graven and ineffaceable will be recorded?*

The case of Lord Byron, which I have noted elsewhere, is corroborative of this power of the mother in molding for good or evil her child's will or want of will, and proves also the intimate relation between mental states and physical or functional conditions.

The excessive indulgence of anger affects the liver, the glands, the nervous system, and brain, and causes disturbances of a serious nature in these several parts of the body. Excessively nervous persons sometimes give way to violence of temper. This is caused by an abnormal sensitiveness of the nervous system and insufficient use of *self-control.* This remedy is a most potent factor in all mental and moral disturbances. It is impossible to estimate its power. It can almost set death at defiance, and certainly changes very materially the action of the glands, of the heart, the nerves, and brain, as all medical records attest.

Violent paroxysms of anger often induce paralysis and apoplexy. Self-will is the basis of all exhibitions of anger or temper, as it is termed. Yet this use of the word should not be confounded with the term will, as applied to express *decision* or a *choice* of methods. Until the jargon of ancient metaphysics is eliminated from modern philosophy by scientific analysis, we shall find a confusion of terms which will muddle and mystify, rather than elucidate, phenomena. There will also have to be changes wrought in existing ideas in regard to the locality and nature of the mind, for metaphysicians of the old school have treated the mind as an entity not dependent upon the body; hence very little light has been derived from a most extensive literature on Mental Philosophy. Another vast contribution to literature has been made by writers on the Nature of the Soul, with about as much practical success as the mental philosophers aforesaid. We are living in a material world, possessed of material faculties and senses, which are in harmony with our environment, entirely suited in every way to the present phase of existence. The mind, as exhibited by the various organs of the body as well as by the brain and nervous system, is entirely an animal organ, made up of blood and tissues as much so as is the brain of a tiger or of a horse. I believe that research and experiment on the part of scientists in time to come, added to what is known positively of the *locale* and operation of the mind, will give us all that *is to be known* of this hitherto obscure and occult department of our existence. My belief is founded on the practical methods at present in use by investigators, both in the laboratory and dissecting-room, as well as in the philosopher's study. These problems of life and mind will have to be thought out, as well as worked out, by experimental demonstration. The sciences of Evolution and Physiognomy combined throw a flood of light upon the origin of the human mind.

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* **Motherhood,** Lucinda B. Chandler, p. 4. Published by the Moral Education Society, Chicago.

The human soul, whatever and wherever that may be, I believe is not known to any man, and, inasmuch as it is popularly believed to be the part of us which is immortal, the individuality which is to take a leading part after death in the next world, it strikes me that it would be the most practical way to defer the consideration of it until our perfect possession of it is assured and our environment in harmony with its highest cultivation. We are sure of the body and mind here, and it would seem that the best way to enhance the welfare of the soul hereafter would be to pay strict attention to the conditions of the mind and body in this life. Surely there is great room for improvement in this department, and entirely too little known on these subjects. Would it not be far better if all would devote more time to the consideration of the real and tangible, the possible and the probable; and would it not be less confusing if the mind was studied apart from any idea of its connection with a soul, and in relation to its connection with a body? I believe, if such a course were pursued and the knowledge thus gained practically applied for one generation only, that there would be more perfect bodies and minds, consequently more perfect souls, and infinitely better-balanced dispositions. That this method will be pursued to a considerable extent in the present and following ages I do not for a moment doubt. It is not that the "wish is father to the thought" in my case, but that I see in the "Signs of the Times" a true *renaissance*, a new birth, a baptism of science, an attempt to return to natural methods. What has brought this new departure about? Several circumstances have contributed, but the chief factor is the wide-spread knowledge of scientific thought and demonstration. Notwithstanding the opposition of nearly all religious sects to science, the fact remains that absolute, provable, scientific truth is attractive to large numbers of persons, and these truths are being rapidly adopted.

The enlightenment which the printing-press has shed abroad has dissolved the darkness and superstition engendered by mediæval ecclesiasticism, and a more healthful and natural or normal condition of the mind is developing under these influences. We are in a fair way of knowing in what true religion consists. My conception of religion is that it is obedience to the laws of God, as indicated by the laws of Nature. All religious systems should conform to and work in harmony with the fundamental laws of our existence, or give up all claim to being "religious." Certain it is that the attempts at "regeneration" never have succeeded in making healthful moral bodies and minds out of unhealthful bodies and weak or defective minds. In order that the numerous abnormal manifestations of mental and moral faculties shall cease to be perpetuated, there must be had a practical knowledge of the source of each faculty, and the law of self-control taught as paramount to all others. When these are taught as zealously and applied as conscientiously as have theological conceptions of religion in the past, the result will be shown in that equilibrated state of mind from which all taint of unbridled will, ungoverned temper, and uncontrolled lust and passion have disappeared.

ANALYSIS OF SELFISHNESS.

Selfishness is one of the traits of human nature which has two entirely distinct and opposite methods of action and purpose—one of which may be commended, the other reprehended. Selfishness, like all other faculties, has its use and purpose in the human economy. Its primal and essential use is the preservation of the body and to provide for its perpetuation and maintenance. Its next legitimate use is for the protection and sustenance of those who are dependent upon us. All manifestations of selfishness that seek to please self and to acquire by the suffering, misery, and unhappiness of others are wrong and should be repressed. Speaking for myself, if I wished to pursue a course with the view of gaining the most, I would act the most unselfish and benevolent part in order to gain my purpose, for we get in this world very much what we give. If we strew our pathway through life with love, kindness, sympathy, noble deeds, justice, and gentleness, we shall receive back the same with interest; but if, on the contrary, we pursue a malevolent career, and deal out hatred, malice, contempt, jealousy, suspicion, secretiveness, and anger, we shall reap a harvest of these passions a thousandfold.

An undue degree of selfishness is indicative of an undeveloped nature. This trait is both inherited and acquired, increases by use, and in excess causes unhappiness to its possessor. The most selfish people are never the happiest; they cut themselves off from the pleasures and enjoyments of the benevolent, and thus limit the range of their happiness. They belong to that class which Lavater describes thus:—

> Which desires much, but enjoys little, and whoever enjoys little gives little.

I have never studied a character which possessed an excess of selfishness that did not have also some serious deficiency in the mental or moral construction. Like the other passions treated of in this chapter, it shows undevelopment. The dark races are, as a rule, more selfish than the light ones. They are less perfect, less progressive, generally.

All Nature attests this truth, that the more refined the person the lighter the color; it is the same with animals. The most destructive, revengeful, and jealous are the darkest, while the white or mixed colors are the most docile, amiable, and teachable. This is a *general* principle. Of course, there are exceptions; some undeveloped light persons being more selfish than very *highly organized* dark persons, but this can be discerned by reference to the *quality* of the skin, etc.

The excessive exercise and indulgence of jealousy, suspicion, secretiveness, and anger produce morbid and abnormal conditions of health, and herein is another proof of the relation of the physical organs to mental conditions. Many infants, even, have been made ill with jealousy by the petting and attentions bestowed by the mothers or nurses upon another child. Anger indulged in has wrecked the health of many. Suspicion often leads to insanity, and secretiveness almost to nonentity. Jealousy, the meanest and lowest of the passions, tends to murder and suicide, and self-conceit in excess to insanity. These excesses should be avoided, not only for our own preservation, but for the sake of those who are to inherit our individuality. All traits that are cultivated and indulged in are transmitted with increasing power, and we have in this way the ability to become the benefactors of the race or to curse it beyond redemption.

Hippocrates, the celebrated Greek physician and physiognomist, says of envy:—

> The effects of envy are visible even in children; they become thin and easily fall into consumption. Envy takes away the appetite and sleep, and causes feverish motions; it produces gloom, shortness of breath, impatience, restlessness, and a narrow chest.

The possessor of all these passions is antagonistic not only to the health of the possessor, but very much against his interest.

Their action produces misery and unhappiness, both to the subject and to the object. These conditions can be partially remedied by seeking out the defect and making a constant struggle to correct it.

Selfishness has its normal scope and action. Unselfishness is often so excessive as to work injury to its possessor as well as its objects. Yet there is very little danger of the majority suffering in this manner. The undue action of selfishness is founded in defective organization of some sort. An excess of the vegetative system exhibits a lack of sympathy and an incapacity through excess of fat to move actively in efforts for the relief of others. An excess of muscles also is often accompanied by selfishness through lack of sufficient sensitiveness to feel for others, or by reason of insufficient intelligence to comprehend the duties and rights of others, or by reason of too little sensitiveness of the nervous system to enable its possessor to *feel* for others. The muscles are not endowed with a great degree of sensitiveness, and where they are well developed, without a due share of sensitiveness such as a normal development of the nervous system and brain bestow, the mind is apt to exhibit a large degree of selfishness.

Another form of selfishness is caused by an insufficient development of the glandular system. This defect impoverishes the system to such a degree as to render one incapable of feeling, hence of expressing, sympathy. Many of the celebrated misers exhibit this defect. If the glands are normal and supplied with plentiful nutriment the system will be, by reason of the normal supply of the body, in a normal condition; hence warmth, sympathy, and the active expression of it will be the result. Unless one is well sustained by nutriment and all his own bodily wants supplied, he will feel unable to make any very active efforts for others, and with a low grade of development of the active agents—the glands—there is an absence of that faculty which proceeds from their activity, viz., Sympathy; hence Selfishness results; and in the case of misers the sense of what is due to their own bodies and minds is quite weak, and they continue a course of semi-starvation of both body and mind until they are wholly incapable of judging of the rights of self any more than they are of the rights of others.

When Selfishness gets to this stage it is seldom perpetuated; for a law of Nature here steps in and protects the world from the propagation of monsters. Misers seldom have children, at least not after this idiosyncrasy has become marked. The cause of this incapacity to perpetuate lies in the fact that the glands involved in the action of the reproductive system are as defective as are the glands which produce or evolve warmth and sympathy, and as they are as impoverished as the other glands of the system there is little desire to use them, and probably there would be no practical results if it were attempted. Then, too, misers lacking warmth of feeling or emotion, by reason of the defective action of the glands, rarely manifest that degree of love for the opposite sex which those do who are normally constituted, hence there arises neither the emotion of love nor its accompanying physical desire, thus evidencing the vitiated condition of that system upon which not only sound manhood but sound morals rest. The *hoarding faculty* which is the peculiar characteristic of the squirrel, rat, and magpie, and similar lowly animals, appears in the case of misers to have drawn off the strength from all other faculties and concentrated it in acquiring, but more particularly in hoarding.

All persons who exhibit an excess of selfishness are defective either in their mental or moral natures. All disproportion and inharmony of character denote lack of equilibrium in the physiological elements of the mind. Selfishness is a trait which can be greatly modified in youth by judicious training; yet many parents cultivate this trait and make it excessive by making idols of children who might be easily influenced to become useful and balanced members of society. I do not know of one defect of character which is more easily modified than Selfishness, if it be attempted in early childhood. There is so much then that is plastic to appeal to, and the selfish propensities have not crystallized with years of use.

I am often asked where the sign for Selfishness is located in the face; there is no single sign for this faculty. It will be observed as a *general* quality dependent upon the want of balance in an individual. The excessively fat are usually quite selfish, for fat is a tissue which is *negative* in its nature and is not endowed with *feeling or sensitiveness;* besides, where it is excessive in its development, its possessor is too busy looking after his own comfort to think of others, and too weighty and bulky to *move actively* in those acts of friendship and benevolence which require personal effort. Persons in whom the muscular system is dominant and who have an inferior development of the brain and nervous system are selfish to a degree. This class of persons are noted for round heads, not high above the ears, but wide over the ears, with short, broad, squat bodies. The cause of their selfishness is twofold. One cause is found in the excess of muscle. Now muscle is, in itself, unfeeling, not sensitive, like nerve; and muscle, too, is the dominant system of the natural commercialist class, which is in its last analysis a robber-class, just as are the birds of prey, living off the industries of others, without producing anything themselves, yet exacting tribute from both consumer and producer *on their own terms.*

Another foundation for selfishness is the short stature. Short, squat people have never the high and noble aspirations of the taller. I do not include in this list the short and finely organized persons, but those who are short, round, coarse, muscular, and with round, flat heads, full of earthy material; natural commercialists. This class are never seen heading reformatory movements, and in their Forms and lives offer a marked contrast to the tall, high head and long, slim face of the Earl of Shaftesbury, who is a celebrated English philanthropist.

Each selfish person presents a different variety and a different degree of this trait, and in each case it can be determined by a scientific analysis of character; but, whatever its origin, it is one of the most universal and active agents in the promotion of sin, suffering, and vice. By its cultivation, at the expense of Justice and Conscientiousness, entire nations are kept in bondage to a few selfish ones. Nothing but enlightened self-interest will break these bonds and restore to all their rights in the productions which they create by their life-long toil.

ANALYSIS OF SELF-CONCEIT.

Self-conceit is, perhaps, the most harmless of this class of traits, but at the same time is ever offensive. Like all other faculties, it has its use and purpose. Nature has made nothing in vain, and so there would seem to be wisdom even in giving one an undue share of this petty trait. Where it is observed to predominate in an organization, it will be found to proceed from a lack of balance, as in the case of the preceding traits mentioned in this chapter. It is sometimes caused by merely a want of good taste, or a deficiency in ideality, or of sound reason, or want of a knowledge of human nature, or by a lack of the perceptive or reflective power, or by dense obtuseness of the mental faculties generally. There are various other causes which produce it; but, whatever the cause, it is designed to make up to its possessor the absence of *something* which, if felt too keenly, would render him unhappy; so, Conceit, coming to his relief, puts him "on good terms with himself," and therefore has its use.

I have sometimes observed this trait very large in persons possessing real merit in some directions, but lacking in others. Conceit gives a sense of *self-satisfaction*, which is needed by its possessor just as long as he has the deficiency for which this is the compensation. If, on learning that he has a defect, and in what it consists, he should strive to remedy it by strengthening the defective trait or traits, he would soon be able to develop a more harmonious condition, and Conceit would diminish or disappear entirely. Dwarfs and deformed persons are invariably conceited; the compensatory power of Self-conceit in these cases is well illustrated; in such it is useful, and prevents unhappiness.

In the case of an idiot, one might ask what compensation he could possibly receive for his immense defect. The only compensation possible under such circumstances would be *utter ignorance of his condition*, and this Nature has given, for, were he sensible of his condition, it would cause intense suffering; hence, the only compensation would be total ignorance on the subject.

Egotism, pure and simple, which arises from a surplus of Self-esteem, is not to be confounded with that form of Self-conceit which results from other deficiencies. Self-conceit is a petty faculty, while Egotism carries with it a dignity which is often only a "mockery of wisdom," yet is never quite the small, pert, sharp little faculty exhibited by those possessing a large degree of Conceit. Egotism likes to assume dignity, importance, and loftiness, while Conceit takes quite a different range of action, using slurs, sarcasm, innuendoes, and petty flings and stings for its weapons. Very small men and women are quite apt to be conceited. Egotism, on the contrary, is more apt to be the vice of larger persons. The sublimity of egotism was manifested in Emanuel Swedenborg, who thought nothing of talking with angels and visiting both heaven and hell. George Francis Train is, perhaps, the most egotistic man living, and he is a tall and well-developed man.

Where the self-feeling is so strongly pronounced it is likely to result in insanity. Many inmates of insane asylums exhibit Self-esteem in an inordinate degree. Where it is strongly manifested in childhood, it should receive attention from parents, and means used to check it before the character becomes so warped as to render it impossible. The theory of Self-conceit is that it is caused by defects of some sort, either physical or mental, and is the only compensation which this class of imperfect beings could receive in order to create a feeling of content or satisfaction with themselves. I think that the experience with and analysis of all self-conceited persons will bear me out in the assertion that they are defective in a most noticeable manner. I have often observed that lisping persons are conceited; where this correlation exists, the moral faculty of exact truth-telling is likely to be weak. If not this, then the judgment will be of an inferior or infantile sort. A different phase of defect will be exhibited in each separate case, and the closest analysis of the physiognomy is essential in order to verify the various phenomena presented by the several cases which come under investigation. This foolish trait can be very greatly modified in childhood by judicious training on the part of parents and teachers.

All these deficiencies can be remedied in a great degree, and sometimes eradicated, by a careful and scientific analysis of character and a settled determination to improve it. The laws of physiognomy, thoroughly comprehended, will be the guide to that result; individual determination must do the rest. This improvement must be undertaken in a religious spirit, reflecting that all our actions, mentally, morally, and physically, affect not only ourselves, but go down to posterity, and curse or bless, for ages to come, all who inherit our blood even in the remotest degree.

The man whose life is passed with reference only to himself, without regard to children and children's children, is little better than the brute creature; in some respects he is worse, for the brute is not characterized by such selfishness as this course would imply. There can be no motive more honorable in man than the desire to transmit to his offspring great and noble qualities, and this result can be obtained only by leading an honorable and noble life. We may endow offspring with fortune, but nobility and talent must be inherited; they cannot be bought in the market.

ANALYSIS OF SCORN AND CONTEMPT.

It is an undeveloped and unbalanced nature indeed which expresses contempt for others for any reason except for ignoble action or sentiment. Whenever this trait is manifested, look out for an inferior, impoverished character. The truly noble or wise never exhibit scorn and contempt for anything except what is despicable. Whenever a character exhibits these qualities, the observer will be able to instantly detect by the disproportion of the facial features that disproportion or want of balance in the mental or moral traits of the person thus exhibiting this repulsive characteristic.

Many persons who possess this peculiarity are lacking in Self-esteem, and the action of the character in these cases is to cause scorn or contempt for others through want of sufficient self-esteem to be able to judge of the like faculties in others; hence they are unable to show proper respect where it is due. It is not at all necessary that the objects of scorn should deserve it in the opinion of those who exhibit this trait, for they vent their scorn alike upon the deserving and upon the undeserving. This proves that the unworthiness is in themselves.

In some instances the observing faculties are deficient and the individuals so unbalanced in this direction that they cannot comprehend fully the character, action, and motives of others; hence the display of scorn in these cases. Others are deficient in Veneration; or it may be Conscientiousness is so undeveloped that the individual cannot estimate the worth and value of his associates, hence he treats them to a liberal dose of his contempt. The truth is that whoever exhibits scorn and contempt has himself some *contemptible trait* of character, otherwise he would not express it to those whose actions and conduct did not justify its exhibition.

One must possess largely in his own character any power or faculty which he exhibits outwardly in his life and conduct. A painter must be well colored in order to be able to make an intelligent and artistic use of colors. A mechanic must be built upon the angular plan in order to illustrate similar form in the construction of his work, and unless these principles are present in these various classes of persons they will be unable to exemplify them in their professions.

It is just the same with *all* the traits; a lack of Self-esteem is felt by the one exhibiting it, and, consciously or unconsciously, he betrays sometimes by scornful conduct the absence of true Self-esteem which exists in his own character, or the lack of Veneration, or of Conscientiousness; or it may be that the reasoning faculties are deficient, and thus his mind is incapable of reasoning upon cause and effect, and therefore he treats with scorn all who come under his displeasure. In each individual case the observer must seek out the cause and endeavor to cultivate and develop the enfeebled faculty which causes the disgusting exhibition of weakness or folly, as exhibited by those who are scornful. When scorn proceeds from lack of Self-esteem, the upper lip will be found relatively short. When it proceeds from lack of Veneration, the *nose*, at its middle portion, will be depressed, inclined to flatness. If want of Conscientiousness is the cause, a very *narrow*, *infantile chin* will mark its origin. The most frequent cause of this miserable trait is want of Self-esteem.

The indulgence of this trait reacts fearfully upon its possessor, for, as it is exhibited alike to friend and foe, to the worthy as well as to the unworthy, a feeling of contempt for such unjust treatment is most justly entertained by those who are the objects of its action, and either active measures are pursued to retaliate or the subject loses the esteem and friendship of those whose friendship it would be well to preserve. But whatever may be the cause of undue exhibitions of scorn, undevelopment of some faculty is surely at the bottom of it. It is with this faculty as with Secretiveness, the more it is practiced the stronger its impress is made upon the face, and the expression of the muscles about the lips, chin, and nose all unfold a tale not at all flattering to the subject of these animal or infantile passions. Let one observe the appearance of the muscles of the chin, those denominated by anatomy the *levatores* *menti* and the *triangularis oris* (a muscle arising from the bone of the lower jaw and inserted in the angle of the mouth). The combined action of these muscles, where it is habitual, produces a well-defined, horizontal wrinkle across the chin at its middle range, which becomes a permanent feature when the sentiment of Scorn is habitually felt.

Habitual scorn is petty in its action, so also is excessive self-esteem when exhibited by small characters; yet it is different in its manifestations. A woman once said to another of a man who had injured her: "Do you not hate him?" To which the former replied: "Hate him? No; I would not expend so much sentiment upon him." This is fine scorn and true self-esteem, supported by reason and common sense.

Contempt and Scorn are two excellent qualities when used in their legitimate sphere, viz., in despising what is low, vulgar, mean, ignoble, vicious, corrupt, depraved, and immoral; but to use it toward the poor, the weak, the ignorant and unfortunate is to prove its possessor still lower and more unfortunate.

ANALYSIS OF ENTHUSIASM.

The transition from the contemplation of Scorn to the analysis of Enthusiasm is like tasting of spice in order to dispel the flavor of some bitter pill, and really to the lover of noble character the exhibition of any ignoble trait in others is most disagreeable and unpalatable. Enthusiasm in young or old is most commendable, and is usually allied to noble deeds or noble aspirations.

It is Enthusiasm that moves the world. It is Enthusiasm that leads to great discoveries,—to inventions,—to great moral and governmental reforms, and to all the numerous and varied achievements of art, science, religion, morals, and all lofty and noble aims. In every community there are always a few who by superiority of organization are able to influence and lead the rest. This proceeds as much from their superior quality of enthusiasm as from their superior strength of mental faculties.

In studying the biographies of all those who have led the world in thought and action, in government, in war, in science, and in art, we shall find that they were capable of arousing in others that faculty of which they possessed a superabundance—Enthusiasm. Had Columbus not been an enthusiast, America might not have been discovered. Had Raphael not been an enthusiast, the wonderful painting of the "Crucifixion" and his beautiful Madonnas and his numberless other magnificent works of art would not have found the light. Had not Martin Luther been an enthusiast, religious freedom would not have been given to the world. Analyze the leading and foremost characters of History, both male and female, and we shall find that the moving and propelling force behind all their other qualities was the attribute of Enthusiasm.

Let it be understood that active enthusiasm is not to be confounded with that spirit of *torpid devotion* which is exhibited by a class of the religious, so called, whose mission, it seems, is to hang back and criticise the active workers. It is pertinent that I should mark the distinction here between these two classes, one of which has won freedom, knowledge, wisdom, beauty, comfort, and happiness for the world, while the other has contented itself with a selfish, torpid, and inactive contemplation, believed by its subjects to be the best means by which to attain happiness *for themselves* in a future state of existence. The contrast between these two classes of persons is most striking and serves to show that a cool, firm, determined purpose to do something for one's own selfish use, although it may be brought about by ignoring practical, worldly methods and advantages, is not the highest kind of enthusiasm, and, although much admired in the middle ages, has quite gone out of fashion now, although there is a feeble attempt on the part of our more superstitious people to carry out the teachings of esoteric Buddhism and other occult and undemonstrative theories; yet these will not succeed to any extent, for it is not possible to engraft very strongly upon a bony, practical race the theories of a nation of dreamers and unpractical theorists. The practical influences surrounding the masses will neutralize appreciably all attempts of those most developed in the faculty of Credenciveness to foist upon the public of this country such nonsensical and unprovable fables. The scientific spirit and knowledge of this age is too well developed to accept these Oriental faiths, which are not in harmony with the grade of evolution which the people of the northern races have reached. This is not in harmony with the present spirit of investigation, nor in the line of modern thought, which tends rather toward the strictly practical. The enthusiasm of the present age seeks more active outlets; and if expeditions to the North Pole do not cool the ardor of those engaged in them, the enthusiastic investigations into the properties of electricity, or the destructive powers of explosives, will keep alive a natural and useful degree of this most exalting quality of the human mind which is shared in common with the race.

The muscles assist Art, Enthusiasm, and many great and noble efforts; they are also the source of many disorders, very many of which can be remedied by self-control and by becoming interested in some unselfish undertaking. Thus, by diverting the action of the muscles into new channels the primary trouble is overcome.

ANALYSIS OF LAZINESS.

There are several classes of those who are congenitally lazy, but the two most common ones are those who are inert by reason either of too much fatty matter or by having too large and too heavy bones, or a bony system so much in excess of the muscular that it is an effort to rise or to move about actively.

Others who are congenitally indolent are defectively organized in other ways—some lack ambition or self-esteem, or are very selfish, or are so *mentally defective* as to have very few mental tastes to gratify; but, by whomsoever laziness is manifested, that character is certainly *defective* in some department of his organism. Some are *too delicately organized* to be actively useful; such fragile beings are to be pitied. The remedy for such beings is to live much out of doors, to practice light gymnastics, eat food that can be easily assimilated, and endeavor to tone up the system by hygienic treatment.

ANALYSIS OF OBSTINACY.

Obstinacy proceeds from a disproportion between the bones and the muscles, whereby the former are too large and heavy for the muscles to move. The joints in obstinate subjects are large, and resemble those of the ass. Stupidity or mental obtuseness of some sort is always manifested by the excessively obstinate. It is a *defective condition*, and shows that it is such by the peculiarities of the disposition or by feeble mentality. Many obstinate people show in their face the absence of certain traits; the observing faculties in some are relatively feeble; in others, absence of color of the eyes; in others, want of good reasoning faculties; in others still, Conscientiousness is wanting. Whatever be the cause, the face as well as the entire body will reveal the defect. Parents should endeavor to ascertain what the defect is and then take measures to *level up* the weak part of the character. If it cannot be eradicated it can be modified by judicious training.

ANALYSIS OF CONTRARINESS.

Contrariness is often confounded with obstinacy by those not accustomed to analyze closely. Their methods of action are quite different, and their results also. Obstinacy is a firm, persistent, unyielding force. Contrariness is a shifting, changeable, inconsistent trait,—now agreeing, again opposing. Such characters are unreliable; one never knows what position they will maintain. Generally the *last* one who converses with a contrary character is able to gain and hold his approval of a plan proposed. Contrariness is a peculiarity of the muscular system, and shows by uncommon ease of the joints and too great flexibility of the muscles. The peculiarity of structure causes the muscles to shift and change rapidly, first in one direction and then in another. Those manifesting it often possess crookedness of some of the features of the face as well as of the limbs.

A disproportion between the bones and muscles is the cause of this defect. The bones being relatively small and often round, and the muscles very flexible, this form of structure creates a shifting, changeable, and often brilliant mind in the direction of art or literature. The moral sense of this class is relatively feeble: Self-esteem wanting; Firmness at zero, and all of the substantial traits absent; yet Generosity and Sympathy present, as well as Amativeness and Love of Young, while Commercialism, Speculation, and Acquisitiveness are large.

These analyses of defects serve to show how important is a *balanced* condition of all of the organs and systems of the body. Man in all ages has shown his *instinctive* appreciation of symmetry by his love and appreciation of symmetrically-built women; of these very few will be produced until the present abnormal taste in regard to the female figure is modified. Not until the small, wine-glass-shaped waist is known to be a more awful species of deformity than any produced by savages, and this changed to the normal form, which is just the reverse of the former, shall we have the highest type of human symmetry and real *thorough-bred* human beings.

Practical and scientific physiognomy teaches that all defects can be remedied to a large extent; hence, the defectively constituted need not despair of improvement. Were it not that human nature is most malleable there would be no hope for the wicked; but this science teaches not only how to improve those who are congenitally imperfect, but it also shows how to generate improved or superior offspring. Progress is the eternal law of Nature; hence, physiognomy does not condemn the unfortunate to endless suffering; neither does it lead to fatalism, as do many theologies, but bids humanity work for that perfectness which is sure to be the reward of those who apply the laws of Nature intelligently. That old slander upon science, viz., that "it leaves man without hope for the future," is entirely disproved by physiognomy, for above and beyond all theologies it shows him that absolute bodily perfection and eternal happiness is the destiny of all who are generated and governed by natural law.

PART II.

PRACTICAL PHYSIOGNOMY.

CHAPTER I.

PRACTICAL PHYSIOGNOMY.

THE THREE NATURAL AND PRIMITIVE DIVISIONS OF THE FACE CREATED BY THE MOUTH, THE NOSE, AND THE EYES.

THE MOUTH.—Nature has divided the face into three primary and principal divisions, each of these divisions having for a centre a feature which is representative of a certain organ system within the body. The mouth is the centre of the most primitive system of functions, viz., that of digestion, and this feature and its surroundings as we find them in developed man disclose the size, power, and condition of the various organs and functions which assist the processes of digestion, viz., secretion, excretion, growth, and reproduction,—the primitive functions. This division is named the vegetative system, and is mainly chemical in its action.

THE NOSE.—The nose is the centre of the second natural division of the face, and represents by its form, height, and size of the nostrils the size and vigor of the lungs, heart, liver, and stomach; also the activity of the brain, for lungs, heart, and brain stand in direct relationship with each other. The activity of the brain is dependent upon the rate of motion of the circulation of the blood for its ability to perform rapid, clear, and strong thinking. The larger the nostrils, the broader the thorax, and generally the middle portion of the face.

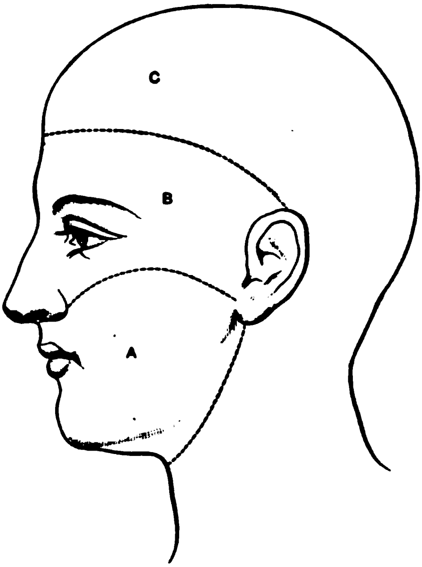

FIG. 12.—THE THREE NATURAL AND PRIMITIVE DIVISIONS OF THE FACE.

THE EYES.—The eyes form the third natural centre of a group of local signs of character. The eyes indicate, primarily, the ability for receiving *sensations* and *impressions* by virtue of the connection with and expansion of the optic nerve; and, secondly, the capacity for *motion* by virtue of their muscular formation, which exceeds in variety of movement, as well as excessive muscular development, any other portion of the muscular system; hence, the eye is properly the facial representative of that system.

The eye represents by its *size* the muscular development of the entire body. The large, full, convex eye denotes more powerful muscles than the small, sunken eye. The large eye is the eye of magnitude, the small eye the eye of accuracy.* The degree of brightness of the eye reveals the *quality* of the brain and nervous system.

These three natural divisions of the face are related to and exhibit the signs of the five superior systems of the body, viz., the vegetative, the thoracic, the muscular, the osseous, and brain and nerve systems. The predominance of one of these systems over the others creates a distinct mental character and an entirely different bodily form.

The first division (A, Fig. 12) indicates the vegetative functions. Its development creates and sustains the moral, domestic, and social functions and faculties. The dominance of this system is indicated by soft, fatty tissue all over the body; full cheeks; large, globular face; wide mouth, full lips; round, fat chin; the nose short and broad; small, sleepy eyes; low, narrow forehead; small head, large abdomen; short, fat arms, legs, hands, and feet; and short, round body.

The second grand division (B, Fig. 12) exhibits the signs for all functions which create and sustain architectural or formative efforts both in the body and externally, in mechanism, art, literature, etc. It is very properly denominated "architectural" because it discloses the signs for all the *constructive* powers inherent in the human body and mind. The functions which are exhibited by signs in this division of the face are mainly mechanical, and are illustrated in the mechanism of man's body. For example, the several lever powers in the interaction of the bones and muscles; the pulley in one of the muscles of the eye; the hinge-joint in the elbow, ankle and knee; the ball-and-socket joint in the articulation of the thigh joint; the principle of the valve in the heart, pylorus, and veins while the mechanical principles of acoustics, optics, pneumatics magnetism, capillary attraction, and gravitation are all included in the organs and functions which are represented in this division of the face. The mental powers which are exhibited and sustained by the action of these several mechanical principles enable one to illustrate in his work, whether in architecture, art, or fiction, the same *formative, constructive principles.*

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* The mechanical construction, also, must be perfect in order to produce *accuracy* of vision.

The third natural division of the face (C, Fig. 12) represents the developed brain and nervous system, and discloses the local signs for abstract reason, mathematical ability, and intuition.

These three grand divisions of primitive man and of childhood have in the highly-developed mature human being a superaddition of faculties which are the result of evolutionary progress and refinement, and are not primitive faculties except in their rudimentary state. In infancy, as well as in undeveloped races, many of the facial signs of character are not recognizable because the facial features are not developed fully—the nose and chin, for example; neither are the functions of the several organ systems of the body matured in youth. The reproductive system is not functionally active, nor are the bones complete in number—the teeth, for example. Many of the bones of the body are not completely ossified and perfected in childhood. A good physiognomist can readily

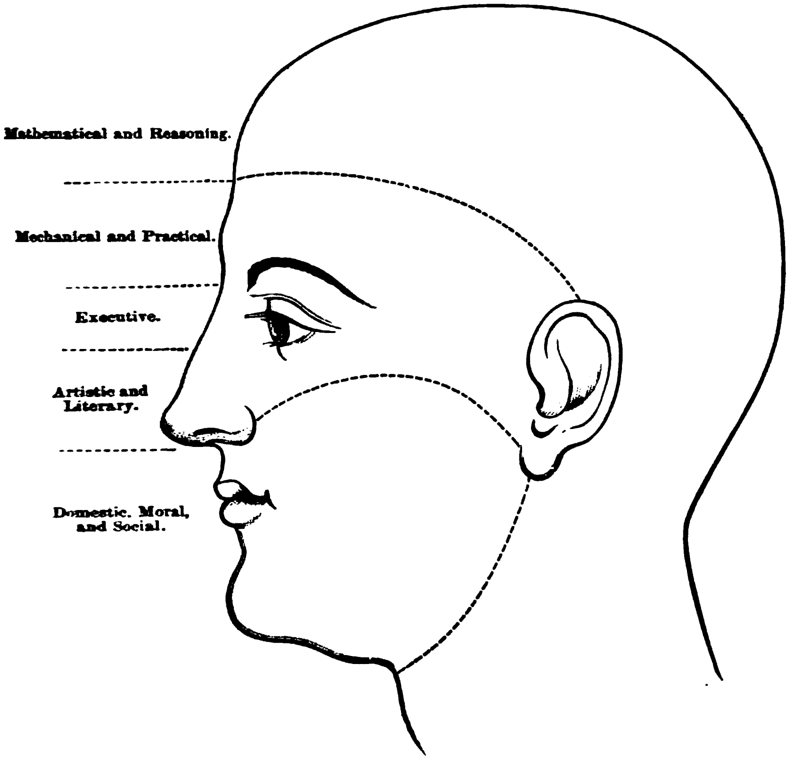
Mathematical and Reasoning.
Mechanical and Practical.
Executive.
Artistic and Literary.
Domestic, Moral, and Social.

FIG. 13.—THE FIVE PRACTICAL SUBDIVISIONS OF THE FACE.

recognize the latent powers by reference to those parts of the same system which are developed.

The dominance of the thoracic system causes the formation of one distinct form, while the preponderance of the osseous system produces another quite different formation of body and distinct mental powers. The muscular system in the ascendency creates another variety of body and mind, while the brain and nervous system creates yet another distinct formation of body. As these are all described in Chapter III, a minute description of them here is unnecessary.

THE FIVE PRACTICAL SUBDIVISIONS OF THE FACE.

THE FACIAL SIGNS OF THE PHYSIOLOGICAL ORGANS AND FUNCTIONS.

In describing the signs of character in the five subdivisions of the face, I have decided to first give the signs for the physical functions, and follow with the signs for the mental faculties and domestic sentiments, which are created by the development of the physical functions.

DIGESTION, OR ALIMENTIVENESS.—The five subdivisions of the face not only unfold all of man's mental character, but at the same time disclose all the peculiarities of his physiological and anatomical structure. The first division reveals, by the size of the mouth, the lips, and fullness of the cheeks, that the process of digestion or assimilation of nutriment is perfect; but where the mouth is narrow, the lips thin, and the cheeks hollow, we find not only poor digestive capacity, but corresponding enfeebled mental powers; for in the vegetative system, where assimilation of both liquid and solid food takes place, *size* of the apparatus involved counts for a good deal, and here size is more indicative of power and capacity than in any of the higher divisions; that is to say, this department is less dependent upon *quality* than are the signs for mental powers.

As we ascend the scale of progressive evolution, quality, refinement, and intensity of the higher faculties take the place of mere *size* as an active agent in producing high characteristics. Yet size of the mouth is one indicator of mental capacity, for without good nutritive capacity the mind would become enfeebled and decay.

In order that the reader may comprehend the exact position of the facial signs for the visceral organs and other bodily systems, I introduce figure on opposite page, upon which are marked the positions of the signs of all those great formative visceral organs which, in a state of normalcy, produce beauty and strength both of feature and expression, and in an abnormal condition disclose both weakness of function and ugliness of feature and expression. These signs form one of my greatest discoveries, and have been said by many able physicians to be "properly a part of medical science." This may be taken for granted, for, when the signs of all the visceral organs have been discovered and their normal and abnormal

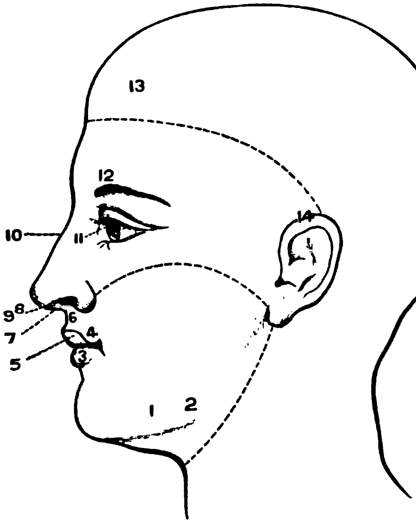

FIG. 14.—LOCATION OF THE SIGNS FOR THE VISCERAL ORGANS.

The signs for the visceral organs in the face can be discerned by the following indications:—

1. **The Kidneys.** Width of the bony structure of the chin.
2. **The Intestines.** Fullness and redness of the cheeks.
3. **The Glands.** Fullness, redness, and moisture of the lower lip.
4. **The Mammary Glands.** Downward curving of the corners of the lower lip.
5. **The Reproductive System.** Fullness, redness, and moisture of the centre of the upper lip.
6. **The Spinal Column.** Length of the upper lip.
7. **The Liver.** Downward projection of the septum of the nose near the junction with the lip.
8. **The Lungs.** Large nostrils and healthy color of the skin.
9. **The Heart.** Large nostrils; also general development of the muscular system.
10. **The Stomach.** Height and width of the bridge of the nose.
11. **The Muscular System.** The eyes; large, convex eyes denote large development of the muscular system.
12. **The Osseous System.** Projection of the superciliary ridges, long and high nose, square chin.
13. **The Brain and Nerve System.** Broad and high forehead, pyriform-shaped face, fine skin and hair, bright eyes, head high above the ears and well forward of the ear-openings.
14. **The Sense of Hearing.** A well-rounded ear, set out from the head.

appearances noted, the intelligent physician can make use of this knowledge, in the diagnosis and prognosis of a disease, by being able to estimate by the development of each visceral sign in the face how much resistance or assistance each of these functions would be capable of during the progress of the disorder

There cannot be the slightest doubt that a well-balanced and normal development of the viscera would be better able to withstand the ravages of a disorder than an ill-balanced or feeble condition of the internal organs. In many subjects there exist very great differences of degree in the power of each visceral organ. Some, for example, have a weak stomach and a strong intestinal system, and, *vice versâ;* others, again, show a weak kidney system and a fair development of the lungs; others, still, exhibit great muscular energy and a weak liver. All of these variations of organ and function are to be found graven upon the face,—the only suitable locality for such registration in the human organism.

To facilitate the comprehension of these discrepancies I have prepared the figure on page 277, and follow it with a description of the signs of faculties and functions in the face. They are entirely reliable, making allowance, of course, for those transient appearances which do not indicate a congenital form of feature, as, for example, hollow cheeks may follow emaciation caused by disease, which, upon a return to normal health, become full, but the sign in such cases for poor digestion, viz., hollow cheeks, is the indication only of the *temporary* suspension of that function.

THE GLANDS.—We have found that the mouth, the first facial feature evolved, discloses by its size, etc., the power and capacity of the entire alimentary canal. We shall discover, if we observe closely, that the lower lip discloses, by its fullness, redness and moisture, the development of the glandular system, which is one portion of the digestive tract. The glands are a most powerful adjunct to digestion and nutrition, as has been explained elsewhere. A thin, dry, and bloodless lower lip discloses the poverty of the glandular system as well as the absence of its associated sentiment, Sympathy, Generosity, or Benevolence.

THE REPRODUCTIVE SYSTEM.—This system combines in its operation several important glands, both in the male and female, as well as a number of muscular organs and apparatus of a cartilaginous nature; hence its facial signs are found both in muscular and glandular tissues. The sign for the reproductive system is shown by fullness, redness, and moisture of the *centre* of the upper lip. The more decided are these signs, the more decided is the vigor and strength of this system. A thin, pale upper lip discloses a relatively weak or defective reproductive system, together with a feeble development of its associated sentiment, Amativeness.

LACTATION.—The sign which adjoins the reproductive system on either side of the upper lip is glandular and denominated "Love of Young." This sign is shown by a projection downward of the upper lip on either side of Amativeness; sometimes the lips droop to such an extent as to almost overlap the lower lip just as is seen in dogs and cows. Redness and moisture of this portion of the upper lip is indicative of normal action and development of the function of lactation and also of its associated sentiment, Love of Offspring. Congenital defect in the development of this function and faculty is shown by a thin, pale, dry, and straight-cut appearance at this portion of the upper lip. A good development of this portion of the face announces the ability to nourish and sustain offspring, by a development of those glands which assist directly in the sustentation of infants, viz., the mammary glands.

The development of the glandular portion of the alimentary tract, as indicated by fullness and redness of the lips and cheeks, creates and sustains at least nine domestic and social sentiments, viz.: Economy, Hospitality, Patriotism, Mirthfulness, Approbativeness, Friendship, Amativeness, Love of Young, and Benevolence.

THE KIDNEYS.—Within the first division of the face will be found the sign for the kidney system, which is, as we have learned in former chapters, a primitive system, and was evolved next after the intestinal system. The sign for this system is disclosed by, and is located in, the osseous structure. The reason for this is explained in full in Part I, Chapter V. The principal facial sign for this system is shown by relative *width* of the *bony* structure of the chin; not of the lower jaw at its angles, but of the chin below the mouth. A large development of fat does not neutralize the significance of this sign, provided the osseous structure is proportionally broad. It is not essential that the chin should present a spare and bony appearance in order to give the sign its full significance and weight; yet at the same time, a soft, fat, round, double or triple chin, although it may have a good breadth of bone underneath, will modify the nature materially of the character in which this combination is found. The associated faculty of Conscientiousness will not be so severely and sternly exercised when accompanied by a large amount of fat. Justice will be tempered by mercy in such subjects, yet honesty and integrity will characterize the individual thus constructed.

In the first or primitive portion of the face, there has now been shown the signs for the primitive functions of digestion, viz., reproduction, secretion (by the glands) and excretion by the kidneys and intestines, growth by assimilation of nutriment, and respiration or mouth-breathing, which is the primitive mode of inhalation. All of these functions depend upon the organs above mentioned for their power to act. The *sentiments* derived from the functional action of these systems and organs are primitive or domestic, and relate to the preservation of the individual and the reproduction and sustentation of the race. The sentiments derived from them are related to the preservation of offspring, the storing of food by economy, love of the domicile, whether of hut, cave, tent, or house, and love of the country where one's interests are centred. The moral sentiment of conscientiousness or integrity relates not only to morality as an ethical sentiment, but in its primitive and physiological aspect, where the kidney or fluid system of the body has performed its work perfectly, *integrity* or *soundness* of all the tissues and organs is assured. This primitive group of associated physical functions and mental faculties is most significant as well as beautiful and harmonious, and no observing person can for one moment doubt the accuracy of the philosophy which expounds their action, nor the propriety of the localization of their signs in the mouth and adjacent parts.

In the preceding pages there has been given a practical method by which to ascertain and locate the signs for all the primitive or vegetative functions. The method of localizing the higher developments, viz., the liver, the lungs, the heart, the muscles, the bones, and brain, will now be unfolded.

THE LUNGS AND HEART.—The lungs and heart in all normally constituted bodies must always stand in harmonious relationship with each other. If the lungs be large and strong, the heart will necessarily be of corresponding size and vigor in order to receive the large amount of blood which the lungs oxygenate; and as a rule, where the circulation of the blood is strong and rapid, the liver in its action partakes of this activity and assists by its secreting powers the cleansing and purifying of the blood, which is its function. Thus, in the next upward progressive step in the evolution of the organs, we come to consider the claims of the liver, heart, and lungs.

The nostrils, by their size and form, bear direct relationship to the lungs and also to the heart through their mutual relationship and intimate interaction. The size of the nostrils denotes the size of the lungs and related size and vigor of the heart. The shape of the nostrils announces the shape of the lungs. If the nostrils are round, the lungs will partake of the same form. If the nostrils are pinched and narrow, forming a knife-blade-like slit, the lungs will possess a corresponding formation and a corresponding lack of vigor.

THE LIVER.—The color of the skin is an infallible indicator of the condition of the liver. If the skin be clear, the liver is in good order and acting normally; but the local sign for a well-developed, vigorous liver is known by the downward projection of the septum or middle partition of the nose, and in the localizing of this sign we have another remarkable group of functional signs which, in their action within the body, mutually assist and condition each other, and stand in close and intimate relationship. Now, upon the vigor and power of these three great organs, the heart, the liver, and lungs, man depends for his ability to think clearly, strongly, and profoundly. If any one doubt this statement let him examine, say, one hundred persons of all ages and sexes, whose nostrils are narrow and small and whose nasal septum is not developed downward, and compare them with one hundred whose nostrils are large and round, or large and long, and whose nasal septum is well developed, and he will become convinced of the active part which lungs, heart, and liver play in the manifestation of intellectual power.

We have now located the signs for the primitive organs, and considered three others which assist in shaping and forming the outlines of the body; for, as we shall see later, although the preponderance of the primitive functions creates a sort of globular formation of the face, features, and body, yet the vegetative person is never so *sharply* outlined as where there is in combination a fine thoracic development; for nose-breathing is a high function, and those who can breathe vigorously through the nose present more strongly-defined outlines than do those whose thorax is flat and depressed. Large lungs and a high, arched chest belong together, and here we find the outline which exhibits the greatest power in all of Nature's works. We may set it down as a principle in architecture that when a building or a body has well-defined arches in its outlines great strength is present. In this illustration we find that the lungs contribute to fashion the outline of both nose and chest. We shall find, in the course of our physiognomical studies in these pages, that not only do the lungs create the shape of the chest and nose, but also fashion the outlines of the forehead. The heart by its size and action assists in forming the shape of the forehead, and a skillful physiognomist can as easily describe the shape of the forehead by observation of the formation of the chest as he can by looking at the forehead itself, so surely do these great visceral organs *create external forms.* And for this reason I have in my system of physiognomy denominated the great middle division of the face the "Architectural," for here are situated the signs for all those great *formative organs* of which the nose and nostrils are the centre and exponent. The placing of the sign for the liver in the septum of the nose is most significant and highly appropriate, for inasmuch as the liver, heart, and lungs bear direct and intimate relations with each other, and as they are placed in the body in such contiguity as to facilitate their interaction, so it is logical to infer that their facial signs would be placed in such position of intimacy as would reveal their locality. Such, indeed, is the case, and it was by this inductive process of reasoning that I have been enabled to make many of my discoveries, aided by years of research and observation.

Thus, the signs for the lungs, heart, and liver form a group most closely associated, and point to the intimate relationship of the organs of which they stand representative; and when the reader takes up the consideration of the grouping of the mental signs he will be as much surprised at this felicitous method of grouping as he is at the appropriateness of the placing of the functional signs in the face.

THE STOMACH.—The upper portion of the nose, usually denominated the "bridge," represents by its width and height above the plane of the face the size and vigor of the stomach. The stomach is mainly a muscular organ, and hence belongs to the architectural division, for muscles assist in creating form and shape. Noses flat and depressed at the centre indicate a weak stomach as compared to those which are high and broad. Breadth here as elsewhere in man's organization denotes strength. As the body rises to the dignity of muscles, muscular organs, and bones, the form becomes more defined. We have observed how comparatively shapeless, by reason of its soft tissues, is the vegetative system, and through lack of solid, firm materials; but the lungs, heart, and stomach, being composed of dense and firm fibres, and preserving considerable mechanical force and activity as well as a fixed and distinct formation, contribute greatly to fashion and determine the exterior outlines of the body. Not only do they contribute by their own formation to define the outlines of the thorax where they are situated, but their operation decides the outlines of the forehead and limbs through the amount of blood created and sent to the distant parts of the body by their action. Fluids, it is true, create tissue, and those soft tissues as seen in the infant do not assume as decided and distinct outlines as do the developed bone and muscle of later years; hence, we cannot rank the stomach with the vegetative organs, although it is one of the principal portions of the digestive apparatus. The intestines, it will be recalled, were the original primitive organs of digestion, and the stomach has evolved since and takes rank with the higher muscular organs. Its very motion in the process of digestion is mechanical, and is caused by contraction of the fibres and muscles of the coats. This motion, termed the "peristaltic motion," is the main part of its office in the process of digestion, the chemical or vegetative part of the act being inferior, and, although the gastric juices act upon the nutriment in the stomach, yet the vegetative or chemical part of digestion is performed *mainly* in the intestines; hence, their character and office in the human economy is quite distinct, and the action of these two organs produces *distinct formations* and *characteristics.*

THE MUSCULAR OR MOTIVE SYSTEM.—One of the principal facial signs of the muscular system is height and width of the nose at its junction with the forehead. Where the muscular system is well developed all over the body, the muscles at this point will, of course, be correspondingly developed.

The eye is also one of the principal facial signs of the muscular system. A full, convex eye announces a fine development of the muscles, while a small, sunken eye indicates an inferior development of the muscles. The height observed between the eyes (sign for Self-will) where the nose joins the forehead is caused by the intermingling of the occipito-frontalis and the corrugator supercilii muscles. Thus, it will be remarked that the facial signs for the muscular system are situated in muscular development. These two signs, as well as the external ear, which is composed of muscle or cartilage, will give the reader all the signs needed for ascertaining the amount of muscular development in an individual; although, where this system is the dominant one, many other corroborative signs may be found not only in the face but in every outline of every part of the head and body; but I am now considering facial signs alone.

MOTION.—In using the eye as the facial representative of the muscular system I do so for the reason that it is composed mainly of muscle; that is to say, it derives its form and size from the form and size of the muscles involved, and as Nature is harmonious the form and size of the muscles of one part of the body will agree in development with the muscular development of all the other parts of the same body. Hence, it will be observed that as the size of the eye denotes the amount of muscular development, it stands representative of the function of motion, for those who possess a well-developed muscular system love motion and move with more ease and rapidity and are more continuous in their movements than those with small, sunken eyes and less muscular development. Motion is also related to Language by the movements of the vocal cord, larynx, tongue, lips, and ear.

VISION.—If the eye were composed of muscles only it would not be an organ of vision; for this purpose it is supplied with an appropriate nervous mechanism which is connected with the brain. It is also supplied with a coloring pigment and certain glands which assist its operatons; but it is the optic nerve which by its *expansion* gives the sense of sight, and in this organ we have the sign for the development of the nervous system. The brightness of the eye is one sign of the *quality* of the nervous system. The capacity of the eye to receive instant and accurate impressions depends upon the high quality of the nervous system combined with a perfect mechanical construction, and brightness of the eye is one of the facial signs for high quality.

HEARING.—The external ear, being mainly of a muscular or cartilaginous nature, is an exponent of the muscular system, and as the facial signs alone are now being described it is quite appropriate to make mention of a feature so nearly related to those facial features which stand in direct relationship to the ear. The mouth, larynx, and nose are all concerned in the production of tone or sound; hence, they stand in close and intimate relationship with the ear—the organ which receives and judges of sound. The most muscular ears are round, short, and thick. The ears of those in whom the osseous system is supreme are relatively thinner and longer, not so circular, but more angular or elliptical in their outlines. The ear of the vegetative person is also round, but is thicker than the purely muscular ear, and shows a greater development of soft, fatty tissue in harmony with the dominant development of the rest of the body.

A neck thick and straight at the back is another sign of the predominance of the muscular system. There are many other distinguishing signs of this tissue in various parts of the body, which will be treated of in their proper place.

THE OSSEOUS SYSTEM.—An extended description of the bony system is not given here for the reason that it has been amplified in the third chapter. Suffice it to say that the principal facial sign for this system is shown by the development of the bones of the lower part of the forehead, denominated "the superciliary ridges," or, as one might say in simple language, the bones of the eyebrows. Where these bones project greatly, the bony system of the entire body is correspondingly developed. It is true that other parts of the face disclose the predominance of this system, but this is the most reliable and also the most prominent bone of the face. Where this system has supremacy, the bones of the nose will be high and long as compared to a purely muscular nose, for bone tends to lengthen and muscle to shorten features as well as the trunk and limbs. The chin is relatively long and wide, also the upper lip relatively long, the forehead square, and the malar or cheek-bones prominent. The general effect produced by the predominance of the osseous system is squareness and length, in contradistinction to the muscular system, for where this system is in the ascendency curves and arches appear in every part of the face and body. Where the eyebrows are greatly arched, the osseous system is not so well developed as where they assume a horizontal shape. The reason for this is obvious; bones produce straight lines and angles, while muscle creates curves. Character can just as well be comprehended by understanding and applying these basic principles of Form as by a more elaborate examination, for Form comes by design and is based on unchangeable principles, hence can be delineated and *translated into character.*

THE BRAIN AND NERVE SYSTEM.—A short description of the external form of this system, which is divided into four principal divisions (but really forming one system), will now be given. Anatomists divide the nervous system into four principal parts, viz, the brain, the spinal cord, the nerves, and the ganglia. The student of physiognomy will do well to study the anatomical and physiological formation of this most important system, for, taken in connection with physiognomy, it will be most valuable and instructive.

The prominent facial signs for the *predominance* of this system are width and height of the forehead, height of the brain above the ears, a pyriform or pear-shaped face, the nose and chin relatively small; bright, clear eyes; fine, thin, sensitive skin; small nostrils, fine hair, and thin eyebrows. These signs indicate the supremacy of this system over all others. Where the brain system is observed in combination with the osseous or muscular systems well developed, the features partake of some of the distinguishing characteristics of all of these systems. Happily there are very few persons in the community who exhibit the brain system in the ascendency, for it almost always denotes delicacy and shortness of life. Unsupported by a good thoracic development and strong digestive powers, a large brain, even of the highest quality, is a serious disadvantage, for the unceasing mental activity which is characteristic of subjects thus formed will soon wear them out. Smallness of the bones and muscles accompany this system and show its extreme delicacy of structure. The hands and feet are relatively small and thin, the chest flat, and the joints small.

If we were to depend solely upon dissections of the brain to guide us as to its office and purpose in the human economy, we should be quite in the dark in regard to its powers. Unlike the visceral organs of the body, whose operations can be understood by examining them in the dissecting-room, the brain does not disclose its capacity for thought through the experiments of anatomists. We are obliged, therefore, to pursue other methods of investigation in order to discover its mode of action and the meanings of its external formation. The study by physicians of those with disordered or defective minds, together with the investigation of those whose brains have been accidentally injured, has given the world the most definite knowledge in regard to the method of action of this portion of man's structure, while the observations and comparisons of physiognomists have advanced our understanding of the *meaning* of the forms of the brains observed in the various races of man.

Great attention is now paid to the training of the feeble-minded and imbecile, as well as to the treatment of the insane, and it is here that the most marked advance in mental knowledge has been made. While the brain and nervous system is in a normal condition and acting healthfully, it does not present (strange as it may seem) so fruitful a field for investigation as the mind in disorder; on the principle that a man would never think of inquiring into the construction of a complete piece of machinery so long as all went well with it, but directly it becomes disordered and performs its work poorly, he then investigates and endeavors to remedy it by a study of the principles involved in its construction.

As physiognomists, we are much concerned in the external shape and other physical indications of the brain, as well as in the laws affecting its internal action. In delineations of character we can derive assistance from the observations and research of physicians to the insane, and of anatomists who make a special study of this portion of the human anatomy, while physiognomical observation can also be of assistance to these classes of investigators.

The theoretical division of this work has, I opine, given the reader the idea that other organs of the body are of equal importance with the brain. The ancients instinctively comprehended this, for Taine tells us that

> The Greeks, having assigned to the body a dignity of its own, were not tempted like the moderns to subordinate it to the head. A chest breathing healthily, a trunk resting solidly on the thighs, and a nervous, supple leg, impelling the body forward with ease, they did not occupy themselves solely with the breadth of a thoughtful forehead, with the frown of an irritated brow, or a turn of a sarcastic lip.*

A large brain of *high quality*, together with large lungs, good digestive and fair muscular and osseous development, will exhibit uncommonly great mental power; but a large brain, particularly a large front brain, without *most of these accessories*, will exhibit either feebleness and dullness of mind or such feebleness of body as to make the brain of little practical benefit. A moderate-sized brain with large lungs will disclose more mental vigor than a merely large front brain, for the largest brains on record have been those of idiots.

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* Philosophy of Art, H. Taine, p. 135.

TOUCH.—The entire outer skin-covering is the organ of touch through which our impression of temperature and the divers qualities of objects come to us. The finer the skin, the more vivid, accurate, and powerful will be the capacity for receiving impressions of surrounding objects and atmospheres, etc. The tips of the fingers and the tip of the tongue are the most sensitive to tactile impressions.

MENTAL SIGNS OF CHARACTER IN THE FACE.

FIRST SUBDIVISION (1).—By dividing the face into five parts we are enabled to make a ready estimate of the relative development of these several subdivisions. Where there is great length or great relative length and breadth from the nostrils downward, including the chin, the domestic, social, and moral faculties are most decidedly exhibited. (See Fig. 15.) These mental faculties are named as follows: Conscientiousness, Firmness, Benevolence, Economy, Alimentiveness or Digestion, Amativeness, Love of Young, Patriotism or Love of Country, Love of Home, Hospitality, Mirthfulness, Friendship, Approbativeness, Self-esteem, and Modesty.

SECOND SUBDIVISION (2).—The division of the face lying between the nostrils and the line drawn across the middle of the nose discloses the locality where the facial signs for Imagination, Sublimity, Constructiveness, Mental Imitation, and Analysis are situated, as well as the signs for Hope and Acquisitiveness.

The noses most developed in width and height at the lower part are seen in the countenances of the most talented artists and writers. Here the term "artist" is used in its most comprehensive sense, and includes all kinds of artists, such as actors, poets, painters, sculptors, elocutionists, orators, writers, and athletes. Rembrandt's nose is an excellent illustration of one type of artist, so also is the nose of Dickens. Wilkie Collins' nose exhibits another form of the dramatic writer's nose. Many persons term these large noses "homely," perhaps because they are not in accord with the ideas of Greek art. Now, art-ideas of the human face are formed without any reference as to the *real meaning* of the outlines delineated, hence it is that Art utterly fails as a revelator of character and physiognomy. Lavater tells us that

> Characters pregnant with strong contending powers generally contain in the prominent features of the face somewhat of the severe, violent, and perplexed; consequently are very different from what the Grecian artists and men of taste name "beauty."*

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* Lavater's Essays, p. 29.

We are not to be disappointed because Art fails to expound the meanings of forms in a scientific manner. Art is intended more for sensuous enjoyment and amusement than for instruction, and all classes of artists are not noted for the high grade of practicality and reason which characterizes scientists, whose province is to investigate natural laws and expound them, while Art is merely imitative, and aims at exciting the emotions mainly; yet both are useful to humanity.

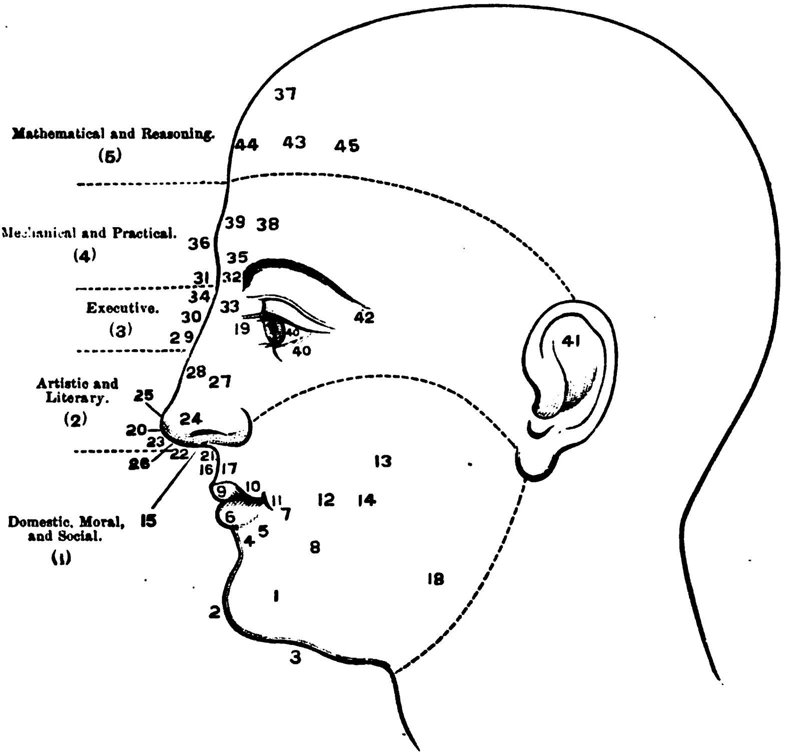

FIG. 15.—LOCAL SIGNS FOR THE MENTAL FACULTIES.

This table of numbered names refers to the numbers upon the above outline. There are several which are omitted from this list, for the reason that they have several facial and bodily signs or are general,—Color, for example. Those which are omitted are described in their own proper order: these are Color, Sanativeness, Force, Time, Order.

1. Conscientiousness.
2. Firmness.
3. Economy.
4. Love of Home (centre).
5. Patriotism (side).
6. Benevolence.
7. Bibativeness.
8. Alimentiveness.
9. Amativeness.
10. Love of Young.
11. Mirthfulness.
12. Approbativeness.
13. Friendship.
14. Hospitality.
15. Pneumativeness.
16. Self-esteem.
17. Modesty.
18. Resistance.
19. Secretiveness.
20. Cautiousness.
21. Hope.
22. Analysis.
23. Mental Imitation.
24. Sublimity.
25. Ideality.
26. Human Nature.
27. Acquisitiveness.
28. Constructiveness.
29. Veneration.
30. Executiveness.
31. Self-will.
32. Credenciveness.
33. Prescience.
34. Form.
35. Size.
36. Observation.
37. Memory of Events.
38. Locality.
39. Weight.
40. Language.
41. Music.
42. Calculation.
43. Causality.
44. Comparison.
45. Intuition.

The nose is the most salient feature of the face, and where the nose is relatively large, and particularly where it is developed about the point and projecting downward below the tip, and where there is breadth across the tip,—where the septum or middle partition projects well downward below the alæ or sides of the nostrils,—we may expect a bold, original, ingenious, constructive mind of some sort; the *form* or *outline* of the nose will decide what *direction* the mental powers will take. The reader is referred for illustration of this appearance to the noses of talented artists and literates, musical composers, philosophers, and inventors. I dare affirm he will never find one good artist with a sharp, gimlet-like, pointed nose. The observer is not to confound the thick, bulbous nose of the habitual drunkard and glutton with the thick, round, and broad constructive nose of the artist or musician, for these are quite different, and, once examined, can never be confounded with each other. The names of the signs of faculties situated in this division are as follow: Hope, Analysis, Mental Imitation, Sublimity, Ideality, Human Nature, Acquisitiveness, Constructiveness, and Cautiousness. These faculties, it will be observed, include nearly all the powers of mind essential to Art, also one branch of mechanism, viz., Constructiveness, and most of the literary and inventive faculties.

This part of the face, by its development, discloses the grade of intelligence to which a race or individual has reached. The entire nose discloses more of the mind—that is to say, the ability for thought and action—than any other single feature; hence, it is at once an animal and a mental organ.

THIRD SUBDIVISION OF THE FACE (3).—The third subdivision of the countenance includes the signs for Veneration, Executiveness, Self-will, Credenciveness, Prescience, Form, and Size. This portion of the nose is most important as an exponent of active qualities of mind as well as of those which induce reflection in many directions. Of this part of the face Herder remarks:—

> That region of the face which includes the eyes, eyebrows, and nose also includes all the chief signs of will or mind in action.*

To know how completely this remark expresses the truth, one has only to observe the faces of those who are deficient in pure will-power and compare them with those of strong and active will, as exhibited by commanders, leaders in reforms, and superintendents, etc. In the former he will observe a sinking in of the nose where it joins the forehead. This appearance is indicative of weak-willed persons with a lack of Executiveness. This deficiency does not apply to Firmness, for, although Firmness and Will-power represent two kinds of forces of mind, they are not the same in action, nor are they derived from the same source, for Will-power purely is derived from the muscular system and Firmness from the osseous structure. A defective will does not indicate a weak intellect or deficient intelligence unless *all* purposive will is lacking, as in imbeciles. The facial evidence of large Self-will is height of the nose where it joins the forehead. Among those who are weak in intellect there will often be found a small, concave nose, together with a lack of development of the bones beneath the eyebrows, and the eyebrows will sometimes describe quite a high arch. This *high arching* of the eyebrows indicates the absence of an observing mind.

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* Lavater's Essays, p. 29.

The most striking proof of intelligence and perspicuity are found in the high, broad, and well-developed nose,—one uniformly developed the entire length and corresponding breadth.

THE FOURTH SUBDIVISION (4).—The fourth subdivision of the physiognomy exhibits the most practical portion of the character. It is only necessary for a good physiognomist to observe this region of the face to instantly decide as to the grade of practical and mechanical mentality present.

It must be apparent to the thoughtful that, as the eyes bring into the mind the great bulk of our knowledge of the world, the parts adjacent will become developed according to the degree of use to which they are subjected. This logic is correct, for we find in the faces of the most practical and observant persons, such as mechanics, physicians, scientists, naturalists, navigators, etc., a great projection of the bones covered by the eyebrows, while the eyes are deep-set and the muscles covering the lower part of the forehead are greatly developed, where are situated the local signs for Observation, Locality, Weight, Form, Size, and Order, all of which assist both mechanical and practical efforts. The late Charles Darwin's physiognomy discloses these peculiarities in a marked degree, and he was perhaps the most close, accurate, and persistent naturalist of this century.

Of this peculiar formation of the eyebrows Lavater remarks as follows:—

> I have seen no man hitherto with sharp, projecting eyebrows who had not great propensity to an acute exercise of the understanding and to wise plans.*

The local signs situated in this division are denominated Observation, Memory of Events, Locality, Weight, Color, Language, Music, Order, Calculation.

* Lavater's Essays, p 381.

THE FIFTH SUBDIVISION (5) of the face brings to our knowledge the signs for reason and mathematical demonstration as well as intuition. The wide and high forehead (where the inherited *quality* is fine) indicates large intuitional powers. A forehead high and broad merely does not denote good logical ability; size must be accompanied by quality. The *shape of the nose* is more decisive as to one's ability to reason logically, yet reason is determined more by the *shape* of the forehead than by its *size*. There are so many diverse forms of the forehead that indicate reason that it is impossible to describe them all here. Many different forms of the forehead will be found described in Part II, Chapter III, hence unnecessary here.

A very erroneous idea is prevalent in regard to the meaning of the forehead. Many persons believe that a very high, bulging, or rounding forehead is an indication of uncommon intellectual powers. To know how fallacious this idea is, we have only to look about us and note the great number of commonplace and even stupid dullards who exhibit just such foreheads. *Great size alone* is not an indication of anything except it be great stupidity or commonplace intellect. Many low, broad foreheads belong to those who evince fine intellectual aptitudes. The portrait of Charles James Fox exhibits such a forehead, and he was a man of transcendent abilities, an eloquent orator and eminent statesman.

Many persons with receding foreheads evince fine reasoning powers, yet the idea is prevalent that foreheads of this shape are indicative of inferior talents. John Locke's recedes considerably, so also do those of the most capable actors, orators, and mechanicians. The late President Garfield's forehead exhibited this outline, and his intellect was far above the average, and noted for its eminent practicality.

Where the forehead is wide and high, and the other parts of the brain equally developed, and the inherited quality of a high order, and the health good, we may expect in such a combination first-class intellect of some sort. The *shape of the nose* will decide that question. So much can be ascertained by the form and size of the nose in regard to the intellectual powers of the individual, as well as of the physiological capacities, that I prefer to make use of this feature in reading character rather than to scan the forehead and shape of the head. There are many occasions where the form of the forehead and head cannot be seen, and the nose, being always accessible to one's scrutiny, is instantly available, and will give an accurate understanding of the internal structure of the lungs, heart, and stomach, as well as a faithful exposition of the kind and power of intellect present.

SUMMARY TO THE FIVE PRACTICAL SUBDIVISIONS OF THE FACE.

The five subdivisions of the human physiognomy illustrate the progression or development of the human body and mind as they rise from the vegetative up to the thoracic, through the muscular to the bone and brain systems. They also illustrate the geological progression of the world, also the evolution of the animal organism from the first animal organ and feature up to the perfected human face and the perfected human being. There is a wonderful beauty and harmony attending Nature's progress, and the careful student of natural laws can readily trace this coeval evolution of the several departments of Nature's domain by reference to the sciences of physiognomy, geology, and the evolution of man.

I think that the most wonderful fact in existence is that the human face, read scientifically, not only reveals the progressive development of man from a mere primitive animal to his present degree of development, but it also corroborates the science of geology, or the progressive development of the world. In this correspondence of sciences, we observe that harmony and co-ordination of Nature's laws without which order in the universe could not exist. The remarkable parallelism which exists between the evolution of the human species and the evolution of the earth is well set forth in the first chapter, vol. ii, of Hæckel's "Evolution of Man," which I recommend the reader to peruse, and if he will follow the course of human evolution he will make a most useful and instructive comparison between the various departments of Nature. Indeed, it seems almost impossible to write a work on physiognomy without including all that is known of the kindred science of evolution, for the face rightly and completely understood reveals and sums up *all* known sciences; hence it is that in justice to my conclusions I am frequently obliged to make reference to and copious extracts from various scientific works.

A thorough study of the five practical divisions of the face will enable the student to simplify very materially the analysis of character. Many of the local signs, it will be perceived, are caused by development of the muscles, as, for example, Constructiveness, Ideality, Self-will, etc. It will be found by tracing these signs to their origin that they inhere in the muscular system, and derive the power to exhibit their action from the system in which their facial signs are found, viz., the muscular system. Other facial signs of character are caused by the predominance of bone, as, for example, Firmness, Conscientiousness, Self-esteem, and Veneration. This class of signs are *inherent in the bony system*, and derive their support from the development of that system, while the social and domestic signs of character are found located in the *glands* of the face or in the fatty tissues of the cheeks. Benevolence, Love of Young, Mirthfulness, Hospitality, Love of Home, and Economy, with several others, are all inherent in the glandular system, and are sustained by its action. The principal sign for Alimentiveness, or digestion, is the size of the mouth and fullness of the cheeks, and in this sign we find the best evidence of the action of the intestinal system.

A good, practical physiology is needed by those who wish to make a serious and thorough study of physiognomy, in order that they may verify the relation between the several organ systems and the various mental faculties and social sentiments, and the connection of these functions with the signs in the face. Physiology and anatomy should be well understood by one who wishes to become a *teacher* of this science. A mere mechanical knowledge of the location of the signs in the face will not be sufficient. It requires a good *thinker* to teach physiognomy. The fact that the facial signs of intellect are exhibited by development of bone, muscle, glands, etc., should of itself be proof of the diverse physical sources of the mental faculties, and a teacher must understand the action of the organ or function which originates each faculty.

Let the reader bear in mind that the dominant faculties—those the signs of which are best developed—will always influence the action of the weaker ones; thus, very large Self-will will influence the action of all the other traits in combination; so, also, where Conscientiousness is one of the dominating faculties, it will cause one to be thorough and prompt in all his dealings, as well as upright and honorable in money matters, and will exercise a controlling influence over all the mental faculties. The interaction of the faculties will be treated of in the chapter on "Localities and Descriptions of Signs in the Face."

The three grand divisions are indicative of the three primitive functions, viz., those of digestion, respiration, and motion, and these are represented by the eyes, nose, and mouth. As evolution advanced the lower animal organism to greater development and perfection, other facial features and mental faculties were evolved, and accordingly we find in the most developed races of man a *perfected chin*, *forehead*, *and nose*. With the perfection of these features we observe the accompanying higher faculties of Conscience, of Reason, and ability for Art, Science, and Mechanics; Conscience is exhibited most decidedly by the development of the width of the bones of the chin; application or capacity for persistent effort, by its length downward and forward, without which man would be as unstable as an ape, moving hither and thither without being able to dwell long enough at one thing to perfect it.

The fine development of the nose shows the signs for Art, Literature, Science, Invention, and Will. Some of these inhere in and are shown by bone development, while others are found in the muscles. The developed forehead is a human feature entirely, for the most intelligent and mental animals, such as the elephant, the horse and dog, exhibit a forehead which has nothing in common with the form of the human forehead. Some species of the elephant display great sagacity and good reasoning ability, and their foreheads are very high and expansive, which gives them a majestic appearance; yet their forehead is distinctively animal-like in form, while their long, cautious, sagacious *nose* or proboscis reaches to the ground. No animal has a chin or a nose rising high and clear above the plane of the face, except the nose-ape (*Semnopithicus nascius*), and this feature in this animal lacks entirely the human form, and hence betrays no evidence of its being the indicator of superior intelligence in this animal. In the reading of character the nose must always be considered the most important as a mental feature; the eyes next most important, as denoting emotion; and the chin, as indicating the moral sense. The forehead, although a later and distinctively human feature, is not so well adapted to the exposition of mental traits as the nose. It is true the lower part of the forehead, that part surrounding the eyes, is a revelator of the practical capacities of man; but the nose will reveal that to a large extent, besides disclosing many other mental traits; for in this feature we find the signs for Art, Mechanism, Science (in the height and length of the bones), Music, Inventive and Analytical capacity, and are also able to discover the *grade of activity of the brain by the size of the nostril.* The nose is, hence, the most important feature and stands in a *central* position, and by its relation to the lungs, heart, and brain, exercises a controlling and dominating influence upon every part of the mental life. Without viewing the upper part of the forehead at all, the good physiognomist is able to describe the amount and kind of reason with which one is endowed, for the nose in its perfection sums up the higher mental traits of the man. The functions of digestion and the faculties of social and domestic life are found best indicated by the mouth and its surroundings, but where we wish to comprehend the mental power of a man we can safely rely upon the *shape* and *size of his nose* for the proof, without regard to his eyes, mouth, or forehead.

It is true that a finely-developed mouth, such for example as Goethe's, is never seen in the physiognomy of a commonplace person, for such a refined mouth shows *general development and refinement* of mind, which will be naturally accompanied by high mental powers. Such mouths are never seen where the vegetative system predominates, for, although this system is *par excellence* the purely domestic one, yet where this system is the dominant one in a person the signs as well as accompanying traits are in a comparatively undeveloped state, hence cannot reveal the most developed character even in the domestic faculties, for here the traits are more purely animal-like or primitive; but with greater perfection of the other parts the sentimental and mental phase of the domestic faculties will be exhibited, hence greater purity and refinement of all the faculties as well as of the faculties of Amativeness, Love of Young, etc., will be present.

One of the indications of the faculty of Intuition is a broad and high forehead, but this may be also known by a large, bright eye, quite as well as by the size of the brain, for the size of the eye shows the expansion of the optic nerve, and this expansion denotes the ability to receive vivid impressions.

Reference to the numbers on the cuts in this chapter will give the reader clear and distinct ideas of the precise locality of each sign. Later chapters will describe their *appearance*, so that the reader will by observation be able to trace as on a map all of the signs for mental as well as physiological traits.

I think it will be apparent to all who will give attention to the subject that the face was intended to be the register of all existing bodily and mental conditions, and that the outlines of the entire body, as well as the shape of the limbs, hands, fingers, etc., are all assistants to character-reading, and that each part is corroborative of all other parts.

No physiognomist has, as far as I am aware, ever given the five principal organ systems of the body and the fifty mental signs a facial localization as I have here, and, as I have discovered nearly all of the functional signs, I have left but little for those who come after me to do in this direction.

CHAPTER II.

LOCATION AND DESCRIPTION OF SIGNS OF CHARACTER IN THE FACE.

> "There are mystically in our faces certain characters which carry in them the motto of our souls, wherein he that can read A, B, C can read our natures. The finger of God hath left an inscription upon all his works, not graphical or composed of letters, but of their several forms, constitutions, parts, and operations, which, aptly joined together, do make one word that doth express their natures." *—SIR THOMAS BROWNE, M.D.

IN numbering and naming the facial signs, I would not have it understood that I have given a complete list of the human faculties. The human mind has probably *more* than *fifty* separate and distinct faculties; these will be, from time to time, added to and located in the face. All the faculties can be educated by cultivation and strengthened considerably; they can also be weakened by disuse. Of the educability of the faculties, Lavater remarks that

> The stronger the change of mind and the oftener it is repeated, the stronger and deeper and the more indelible is the facial sign. Morally deformed states of mind have deformed expressions. If incessantly repeated, they stamp durable features of deformity.

This remark is eminently just, yet it requires a knowledge of scientific physiognomy to understand many of the expressions of the human face.

The adaptability of the human mind is one of the chief factors in the evolution and upward progress of the race, making possible a very high grade of mental and physical development; in short, conducing to human perfection, a condition which I believe to be the ultimate destiny of humanity on this planet. An educated conscience is better able to apprehend and imitate the highest ideal of justice and honor than is the same faculty left to its natural mode of action. It is a conscientious sense of duty which leads religious fanatics to throw themselves under the wheels of the car of Juggernaut; yet the same conscience, educated and trained, would abhor the sacrifice of life. Conscience must be *balanced* by reason to make it of the highest efficiency.

It is just the same with other faculties. Benevolence must be balanced by reason and practicality, else wrong ensues and a really good faculty becomes an instrument of evil.

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* Religio Medici, Sir Thomas Browne, M.D., p. 167.

Many of the prevalent Art-ideas in regard to what constitutes true beauty are so false and far removed from Nature and normality that it is difficult for people to regard as immoral any appearance which Art stamps as beautiful. Art does not profess to be a revelator of Nature and of character, only an *imitation* of it; hence, we are necessarily obliged to resort to science for our interpretation of Nature's phenomena. Art has never given us the key to character, for it does not deal with vital interior principles.

In the description of signs in the face, I will state at the outset that the facial signs of character are the same in man as in woman, and that man does not possess a *greater number of mental faculties* than woman. Woman is a more perfected creation than man and is higher, by reason—first, of quality, or fineness of organization, and, secondly, because she possesses two more functions than man, viz., gestation and lactation.

The popular idea ascribes to man the possession of a distinctive mental construction, for the reason that he makes greater use of a certain set of faculties, viz., the logical, to the exclusion of another set,—the emotional.

Woman has lived so long and so exclusively in her *emotional* nature, in her feelings, sentiments, and affections, and has so long and persistently ignored reason and logic, that it has come to be generally understood that the female mind does not possess the same number or kind of traits which distinguish man's intellect. Because man's head is larger it is argued that he is superior. Now, the idea that his head is larger than woman's is a fallacy. Man's head, in proportion to *his larger body*, is not larger than woman's, in proportion to *her smaller body;* so here a balance is at once struck in regard to *size.*

Now, in regard to the possession of the same number of mental traits. I have never observed a man who possessed a single faculty which was not common alike to woman.

The fact that man has developed his muscles until they are enormous in size, and that woman has used hers so little as to be in some instances very small indeed, does not prove that woman has *no* muscles, but only that she has neglected to develop them as man has.

It is just the same with the intellect of the two sexes. Man has developed his reason, boldness, will, and courage, and woman has cultivated her emotions, weakness, timidity, and modesty, and has neglected her logical faculties, will, and courage; thus the sexes have become unbalanced,—out of harmony, in a great measure,—and until woman cultivates her reason, will, physical strength, and courage, and man develops more pure affection, purity, and modesty, this inharmony will be perpetuated in offspring, who will hand down the same unbalanced, inharmonious conditions to their posterity, and thus thwart Nature instead of working in harmony with her laws. Equilibrium is the law of the universe.

A woman with a logical mind is as womanly in her nature as a man is manly who has an affectional nature and who exhibits love for his wife and children; hence we may conclude that we shall find the signs in the face the same in both sexes, both as regards location and number. There are certain *general laws of form* to be applied to the reading of the physiognomy (and here I use the term in its general sense, as pertaining to the entire body), a knowledge of which will greatly facilitate a true and accurate delineation of character.

In the first place, the examiner must have knowledge as to whether certain appearances of the features and body are congenital or are the result of accident or disease. Many faces present a crookedness of the nose, mouth, eyes, or other features which were not thus shaped at birth. In this case the subject must be credited with the characteristics which would accompany straightness of the features. Then, too, the voice is often greatly changed in tone by disease; this must be ascertained before passing judgment upon vocal indications. The subject should speak a few sentences in a natural voice in order that the examiner may use his knowledge of sound, in order to distinguish those characteristics which the voice very greatly assists in revealing.

To an experienced ear much of the mental calibre will be disclosed by hearing a single intonation or sentence. Very much of the disposition of physical as well as of sexual states can be also understood by the tones produced in speech. All desirous of becoming expert in this direction should listen attentively and compare voices and intonations with the forms of the face, features, and body, and thus cultivate and develop this most important part of physiognomy. *Sounds* cannot be accurately described by writing, that is to say, only generally. Individual peculiarities and the innumerable fine shades and grades of vocal expression must be studied in each individual case. They cannot be described by the pen.

Gestures are most significant in disclosing character, for where they are natural they reveal habitual states of mind and feeling. The poise of the head and the way in which one puts down his feet in walking are indices of one's individuality, while the play of the muscles about the mouth and eyes are among the most conclusive evidences of mental, moral, immoral or affectional characteristics.

The *form* of the human body and face is only *one* of the many indications of human character. The attitude, the movement, the walk, the gestures, the handwriting and handshaking, are all indices and exponents of mental traits and physical conditions. A skillful and observant person can tell much by the hand and foot alone; by the eye very many things are indicated; the nose reveals much of the mind and interior of the body; in short, each feature has in it many meanings. In the pages which immediately follow this the way to discern and locate the signs of the various faculties will be explained.

The use, primarily, of all the functions and faculties is for the preservation, protection, and perpetuation of the species. Other faculties and powers have aggregated by use and attempts in higher directions. Practice increases capacity. There is no doubt that the human mind is gradually acquiring *more faculties* by striving after higher knowledge. These, undoubtedly, will be evolved in the regular order of progress from the lower to the higher. The present age is expanding and strengthening the higher powers of the mind; reason is more general among the civilized races than in any previous era. As a consequence, superstition is giving way to positive scientific truth and demonstration, and theories unsustained by reason and fact are impeached and rejected.

As the powers of the mind expand, we become cognizant of facts in Nature which lower developments failed to perceive and could not penetrate. We are gradually, but slowly, becoming acquainted with the world we live in, and things which have seemed to be the work of supernatural powers are now so well understood as to come within the comprehension of school-children, and can no longer be used to pander to the ambitions, vices, or designs of wicked kings, crafty priests, or unscrupulous politicians. Among the most important discoveries, I may mention the science of physiognomy, which is destined to play an important part in the civilization of the world by unveiling what has been so long a mystery to man, viz., Man himself.

"Physiognomical sensation," as Lavater designated the innate and intuitive conception of character, is common to both men and animals. A dog will show by his actions that he understands character, and will be instinctively attracted to those who love his kind. Babes, who are yet in the stage of animal instinct, will attach themselves at sight to those who are fond of children. Men, in looking at the faces of others, will be drawn in confidence, or repelled by something in the countenance which they cannot define or locate exactly. They say of one, "He is a good, square man;" or, "He is a sneak and a coward—I can tell it by his face;" and yet, if you ask them to point out the precise places where they discover these traits, they cannot tell you where they are to be found.

The possession of this physiognomical instinct is general, and shows not only that the face is understood to be for some other purpose than to place the eyes, nose, and mouth conveniently, but instinct and intuition as well point to it as the natural record of the body and mind—of the real Man himself. The nerves of sensation ramify upon the face and front of the organism, while the motory nerves are at the back of the brain. This disposition of the nerve forces would cause the face not only to exhibit *more* of the character than any other portion of the body, but would prove the fact that the greater the development of the features of the face, the greater its power for receiving sensation; thus exhibiting more gifted characteristics than where the features are small and undeveloped. All human nature attests this fact, and shows that the more varied are the features,—the more depressions and elevations there are in the face,—the greater the variety of character is exhibited. A smooth, shining, small-featured, unwrinkled face always discloses a small, unemotional, unthinking, and selfish character, of very small capacities. *A man's real character is spread all over him.* His voice and walk agree with the shape of his body, and reveal his mentality to a degree; but the *face sums up* the whole Man.

As I have before shown that certain powers are derived from the predominance of certain conformations of the organism, and are always found accompanying them, it is logical to infer that *determinate portions of the body sustain and are related to certain faculties of the mind.* Upon investigation, it will be proved that the face is the exact register of all mental faculties and bodily functions and conditions. A keen analysis and comparison of the development of the organs of the body with the action of the faculties, emotions, and sentiments will show that the organs of the viscera,—the kidneys, the reproductive system, the liver, the intestines, the heart and lungs,—as well as the bones and muscles, sustain and are directly related to certain mental faculties. All mental faculties have their physical bases from which the mind is able to produce thought, emotion, or will. This interaction of the mental and physical powers will be explained as we proceed. The locality of signs in the face will be here given. The *rationale* of the order of their arrangement will be made apparent as the reader progresses.

As preliminary to the investigation of the signs in the face, a recapitulation of the more fundamental principles of form will now be given, in order that the student may make a practical and intelligent application of them to the forms and features under observation. As some of my readers may not be able to read the theoretical or first part of this work, or may desire to proceed at once to the second or practical part, this recapitulation of basic principles will be of service and opportune in this connection.

Scientifically considered, the straight outline in bone or muscle indicates straightforwardness of action. The curved outline in bone or muscle denotes less ability for straight action, but more capacity for curvilinear motions and methods. The crooked outline of bone or muscle denotes inherent tendencies to crooked, tricky, or dishonest dealings. Squareness combined with straightness of the bones indicates the highest degree of moral character, heroism, and gratitude. See the faces of George Washington and Thomas Jefferson, either of which can be made to fit into a rectangular frame.

Straightness of the muscles denotes truthful propensities, and is indicated by straightness of the mouth and eyes, and by the roundness of the openings or commissures.

Crookedness of the muscles denotes untruthfulness and tricky methods of dealing in business, also licentious desires and lax notions of virtue and of the conjugal relation, with small understanding of, or belief in, sexual ethics.

The four classes of bone, the round and the square, the straight and the crooked, reveal four distinct types of character; so, also, do the four classes of muscle, the round and the thin, the straight and the curved; but as all these principles have been elaborated elsewhere, they need only a passing notice here.

The faculty of Conscientiousness will now be examined, for all Nature, human nature included, is based on integrity—equilibrium; hence, a knowledge of underlying or foundation principles must first be comprehended before advance can be made.

THE FACULTY OF CONSCIENTIOUSNESS.

Definition.—Honor, honesty, integrity, morality, thoroughness, the perception of truth, love of justice, sense of duty; gratitude, or sense of favors and benefits conferred; moral courage and heroism; love of right and hatred of wrong; the sense which causes repentance and consciousness of guilt; truthfulness; capacity for comprehending the truths of Nature; the basis of science and religion.

An *excess* of this faculty causes one to be severe and exacting toward others, holding them up to a higher and more rigorous standard of morality than they are capable of attaining. It gives harshness to the character, and, unless tempered by benevolence or love of young, makes the individual unloveable, and, although his word can be always depended upon, he is better liked in business than in the family or social circle.

A *deficiency* of Conscientiousness is shown by a lack of honesty, truthfulness, virtue, moral courage, heroism, and integrity, causing the character to be mean, low, sly, sneakish, thievish, untruthful, and lacking gratitude.

Facial and Bodily Signs.—One of the most conspicuous signs of rectitude is shown by that *width* of the *chin* which is produced by the development of the inferior maxillary or lower jaw-bone, below the mouth; also, by general straightness and squareness of all the bones of the face and body, together with the manner in which the eyes are placed in the head, and their shape and the shape of the mouth. Eyes which turn *too far downward* at the outer angle are not strictly truthful; yet many very truthful persons exhibit eyes which are curved downward at the outer terminus to a certain degree. This, in their case, denotes agreeability, plausibility, and persuasiveness, and can be seen in the physiognomies of the most celebrated divines, scientists, and mechanicians; but where it *exceeds* a certain degree, accompanied with a *low quality*, it denotes an agreeable manner of telling falsehoods, as in flattery, cajoling, persuading in commercial transactions, as observed often in horse-jockeys, lawyers, and salesmen. Eyes which are almond-shaped, oblique, or cat-like, and turned *upward* at the outer angle, are crafty and deceitful, as seen often in the characters of the Mongolian race. In those animals which present a similar form of eye the same characteristics are observed. They are noted for slyness, trickery, deceit, treachery, cruelty, ingratitude, and general falsity. The tiger, the panther, the fox, the cat, the rat, and the entire family of rodents disclose this crooked, dishonest formation of the eye. A long and narrow shape of the commissure or opening of the eyelids is held by some physiognomists to indicate a lack of sexual morality, an unbridled licentiousness, which is inconsistent with sexual ethics or a moral use of the reproductive system. This form is observed in many Oriental races who practice polygamy,—the Turks, for example; also, in many undeveloped peoples, as, for example, among the African, Tahitian, and other island races. Among all civilized races, also, are many whose eyes disclose this peculiar formation, together with the accompanying polygamic traits. The centre of the upper lip, if too greatly developed. is one sign of excessive amativeness, and, unless accompanied with large conscientiousness and other balancing traits, is apt to lead its possessor into a disregard of *sexual morality*.

The capacity for *truthfulness* is revealed by the *shape of the mouth*, as well as by the form of the eye, for the straightness of the muscular system is the basis of one essential department of integrity. *Straightness of the mouth* is a better indication of the truth-telling capacity than if it be oblique, distorted, or crooked; that is to say, if the crookedness be congenital. Many mouths have become changed in form by disease or accident. This should be known before passing judgment. Some crooked mouths pervert or distort the truth; others are open liars, either silly or malicious, according to the other traits in combination and influenced by color.

The *color of the eyes, hair, and complexion* is an indication of the *general integrity* or *soundness* of the tissues, hence of the capacity of the individual to recognize truths, to act vigorously in the defense of truth, — morality, — reform, and to perform heroic acts. Very light-colored eyes, even with square bones, would not be so capable of exhibiting moral heroism as one with darker eyes, yet might be noted for simple honesty and honorable conduct. Color gives vigor, and deep color, along with a good, square, bony form, often leads to very great daring in moral movements and in acts of personal heroism and courage. The influence of color upon traits is fully explained elsewhere.

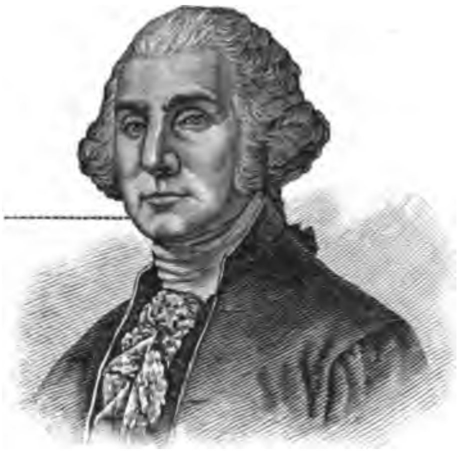

FIG. 16.—GEORGE WASHINGTON.

Principal facial sign of Conscientiousness, width of the bony structure of the chin. Born in Virginia, 1732. The law of the square, straight line, and angle governs this face and body. The mathematical outlay of the countenance is rectangular. George Washington stood erect, over six feet in height, and exhibited a perfectly balanced character. The size of the nose discloses great mental ability, being long, wide, and bony its entire length. The signs of Conscientiousness, Firmness, Reason, Veneration, Executiveness, Self-will, Form and Size, Patriotism, Love of Home, Self-esteem, Friendship, Benevolence, Economy, Amativeness, and Love of Young are all large in this sublime countenance. He was successful as farmer, surveyor, statesman, general, and president. No public character has ever exhibited greater rectitude than he.

The *bodily signs* of Conscientiousness are straightness of all the bones and muscles, square shoulders, squareness and straightness of all the bones of the legs, arms and fingers, large joints, hard bones. Secondary or subordinate signs are seen in good color of the eyes, hair, and complexion. Albinos are characterized by very defective sense of sight, sound, and scent; hence, perfect integrity of these functions and their related faculties is lacking.

Description of Conscientiousness.—The several sources from which the *general integrity* is derived are fully explained in Part I, Chapter V, and it is only necessary here to say that the sign for Conscientiousness in the chin denotes the kind of integrity which is exhibited by honesty, honor, gratitude, and moral courage, while the truth-telling department of integrity is exhibited in the mouth and eyes,—in the muscular system. Indeed, any eye off the straight line varies in truthful significance, according to the amount of its deflection from a straight line, running all the way from *amiability* through the various degrees of *plausibility*, *duplicity*, *deception*, secretiveness, craft, cunning, lying, and cruelty, all of which are shown by the shape of the eye which deviates from a straight line, either above or below the line. Where the outer corners of the eye turn *upward*, the indications are like those of the same shape in the lion, tiger, and fox, and like traits will be exhibited,—cruelty and craft, deceit and cunning; but where the outer corner curves *downward* slightly, agreeability of speech is always found. Still farther turned downward, they are plausible and persuasive, and make good salesmen and politicians. Still farther downward, they indicate untruthful propensities in a great degree. Benjamin F. Butler's eyes are more marked in this respect than the eyes of any celebrated man that has come under my observation. With a coarse quality of structure this form denotes untruthfulness.

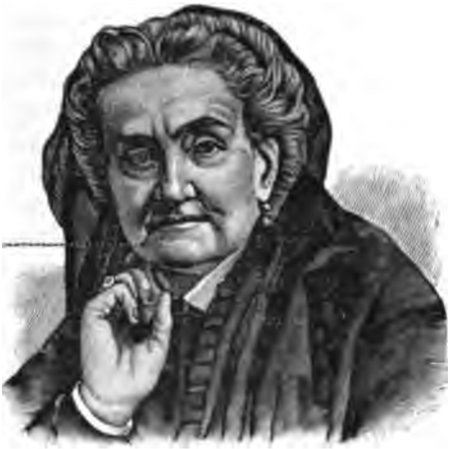

Fig. 17.—CHARLOTTE CUSHMAN.

The law of the square and straight line is the governing principle of this face and character. This celebrated American actress was noted for her honorable and upright character as well as for the fidelity of her impersonations. Large Conscientiousness gave thoroughness to all she undertook. She excelled in tragedy. In her face the dramatic jaw is well developed. Ideality, Human Nature, Sublimity, Constructiveness, Analysis, Veneration, Self-will, Memory of Events, Form and Size, Language, Approbativeness, Mirthfulness, Friendship, and Firmness are all large and her Quality of a high grade.

As Conscientiousness gives moral courage, it is the base of many heroic acts, and will often lead even delicate women to deeds of daring for principle's sake, and to protect the helpless. Joan of Arc and Charlotte Corday are examples of this sort of courage.

Conscientiousness in excess leads to severity and exaction in moral conduct and life; it also tends to moral courage. The pioneers in all departments of advanced thought, in governmental and moral reforms, have possessed this faculty largely. The faces of Franklin, Jefferson, Jackson, Washington, Paine, John Bright, Cobden, William Cobbett, William Lloyd Garrison, Abby Kelly Foster, Frances Wright, Lucretia Mott, and all who have dared to demand the abolition of unjust laws, and who have contended for the establishment of new forms of goverment based on human rights, evidence by their physiognomies that Conscientiousness filled a large part of their natures.

Conscientiousness is found most largely developed where the bony system predominates, and, as liquids do not affinitize so well with this system as with the vegetative and the muscular, there is consequently less drunkenness among persons with the bony structure predominant. Many leaders of the temperance movement will be found to possess the bony system in excess. Those who have been great drunkards and have reformed, like Gough, and Murphy, the leader of the "Murphy movement," are men of muscular build, and are held to their pledges through their religious associations, and do not depend upon pure Conscientiousness, which is found most active with persons of the bony system.

Conscientiousness is in the domestic group, and does not belong to the religious group of faculties. *It antedates them in the evolution of organs, functions, and faculties*, and is of far more importance in the human organism, being primarily for the protection of the purity of the entire body. Conscientiousness is related to the kidney system, which both secretes and excretes the fluid waste and impurities of the entire body. As 75 per cent. of the organism is water, the physiological importance of the organ must be apparent at first glance; its moral importance follows as a matter of logical sequence. The relation of the various organs of the body to the moral and social faculties is explained fully in the chapter on "The Rationale of Physical Functions and their Signs in the Face."

An excessive development of Conscientiousness makes the character harsh, hard, and exacting in moral conduct toward others. Those who possess a large share of this trait do not seem to consider how difficult it is for those who are deficient in this respect to keep their obligations, live up to their promises, and meet their appointments. As well ask a man destitute of the musical sense to sing a tune as to expect a boneless, gelatinous individual to become a moral hero. Conscientiousness can be cultivated—in youth, particularly—by constant inculcation of the moral sentiments. Example speaks louder than words. Let children see that their parents are always strict and exact in settling bills, meeting obligations, and keeping their promises, and they will be inclined to follow their example. Children should be taught that they can make no compromise with their conscience; that taking a few nuts or an apple from a store or orchard is stealing, just the same as if they had taken dollars instead of fruit. Never use the term "nipping" for stealing. Such expressions which children and parents use to express crime only serve to *soften* the moral sense and disguise the enormity of the act. Had all parents been exact in their teachings and example in regard to honesty the penitentiaries would not now be so crowded. Criminals are often born criminal as well as trained to evil-doing. God never made any man dishonest, but laws not comprehended have been broken, and children have been propagated by parents who were unsuited, morally and mentally, to mate, and have thus ignorantly produced unbalanced, dishonest offspring. *Ignorance of physiological laws* is the cause of many wretchedly-constructed children. Had *right generation* been preached as long as has *regeneration*, I believe we should have no need of the latter doctrine.

Many mock-modest persons think that these subjects are not suitable for general discussion, and consider them "vulgar" and "filthy." As God has originally constructed our bodies according to law, and evidently expects us to seek and apply these laws, this class of persons must hence accuse the Almighty of vulgarity in having created a subject which is governed by laws too indecent to be spoken of.

To inculcate honesty for *its own sake*, and for pure love of it, is a high motive, yet all are not capable of comprehending conduct based on so altruistic a sentiment, and thus it is that fear of punishment and hope of reward are held out in order to induce people, both old and young, to conform to one general standard of morality.

Enlightened self-interest goes far toward making people honest, for, when reason has begun to work, men find that to be true and just in their dealings with each other conduces to the safety and happiness of all. As civilized society is now constructed, our lives and comfort consist in being *sure* of the possession of our own goods and property, and, unless the sentiment of honesty is general and strongly impressed upon all the members of the community, man has no guarantee that his earnings and savings will be protected from plunderers and robbers.

I have shown formerly that differences of structure and differences in the proportions of the several tissues in man conduce to the several kinds of honor, honesty, truthfulness, and virtue, and that speech is produced by the use of the muscular system. We must look to the *integrity* of that system for its illustration. As the reproductive system is mainly within the muscular system, we must look to the integrity of that portion of the anatomy for the signs for physical purity, virtue, and fidelity to virtuous sentiments.

A fine, square, and straight construction of the bones shows that honesty, integrity, sense of justice, and moral courage are present, but if with this same structure of bones the muscles are lacking in integrity, that is, in strength, and particularly in *straightness of the mouth and eye*, the character for truth-telling will not be as strong as where the muscles are also straight. Yet the individual thus endowed may be *strictly honest* in his dealings and pay his just dues promptly, *that department* of his honor being well developed; but the other,—the muscular or truth-telling department,—being crooked or perverted from the normal standard, the character suffers accordingly, hence does not exhibit that entire and *complete integrity* which would result if the muscular system were inherently as sound as the bony system. Each trait must be closely scrutinized and analyzed, and every fine shade and grade observed and understood before passing judgment. Great care must always be taken to ascertain if the crooked appearances of the mouth and eye are congenital, or whether they have been produced by accident or illness, as is often the case; otherwise, great injustice and erroneous reading of character will result.

Where the muscles about the mouth have caused that feature to assume a crooked or one-sided appearance, the truth-telling propensity is feeble as compared to those in whom these features are perfectly *straight*, and where the eyes are set *true* in their orbits, and where the commissures are perfectly *round*.

One mode of discerning the grade of sexual morality in an individual is to observe whether the muscles of the legs are straight or crooked. Where the legs are crooked *from the knee downward* and *bent outward*, the character is licentious, with but feeble ideas of virtue or very little principle in sexual matters. (The sign for Amativeness will in these subjects be correspondingly large.) In fact, the meaning of sexual ethics is not understood by such people, who will seek to gratify the sexual *instinct* whenever and wherever possible, without scruple.

The bow-legged individual must not be confounded with the former, for in the case of bow-legs the curvation is from the *thigh downward* and outward the *entire length* of the leg, and has been caused by want of lime in the bones, or from having stood before the bones were sufficiently matured.

Square bones and straight features of the face, together with straightness of all the limbs, denote all kinds of integrity, that is to say, truthfulness, honesty, honor, principle, and monogamic love, or inclination to love one at a time, and to be true to the marital obligations.

In expounding Conscientiousness, the consideration of many systems and principles must come before us. The circumstance of *color has its weight* in deciding upon the power or weakness of the moral sentiments. Given an individual in whom the sign for Conscientiousness in the chin is most decided and the eyes *very light*, the character will not possess the high grade of honesty and honor that it would were the eyes blue or black and the complexion well colored, for color gives power and *soundness* to every tissue, as I have repeatedly remarked. The lack of color denotes *relative* feebleness of the tissues, hence of *their power to exhibit* the highest degree of principle and conduct. All these principles must be weighed and their due effect upon character comprehended, else a very one-sided or partial delineation will be given and thus prove very unsatisfactory and erroneous.

These several and diverse bases of moral conduct have never been put forward in any work on metaphysics, theology, or phrenology. The capacity for truthfulness, honor, and honesty have all been ascribed to one *mental faculty*, located in the brain. If this faculty had but one base, then those who were honest and paid their debts would be also equally scrupulous in speaking the truth and would be also virtuous and pure in sexual matters, but that this is *not* the case every man's experience assures him. Many persons who lead immoral, licentious lives are strictly honest in paying their debts, and often from principle in that direction. Many merchants like to have the patronage of lewd women because they say they can depend upon them for payment of obligations. This principle is acted upon by many without going into the philosophy of it, for in a court of justice the word of the most licentious men will be taken and receive as much credence as the word of the most virtuous matron or maid.

The more we investigate Nature's laws the more we shall become convinced that all her indications are self-revealing, and need only to be observed to be understood. *Straight outlines* reveal *straight character; crooked outlines, crooked characters;* square outlines reveal squareness of conduct, and this labelling of all creatures in the world saves us a deal of trouble when once we become conversant with Nature's laws and methods.

Many persons who have not thought nor observed much on the subject of physiognomy hold the opinion that a knave and trickster can easily conceal his real character by arranging his features in such manner as to imitate and appear like an honest, truthful person. How impossible this is when viewed by the light of science the following extract from Lavater will show. He observes:—

> One of the most usual and strong objections against physiognomy is the universality and excess of dissimulation among mankind. These, it is said, make all possible efforts to appear wiser, better, and honester than in reality they are. They affect the behavior, the voice, the appearance of the most rigorous virtue. This is a part of their art, and I declare that as *it is art and not Nature* they could not sustain the rôle consecutively, for there would be times when they would be off their guard and expose their real character, even if the *natural contours and outlines did not expose them.*

Also:—

> They study to deceive till they are able to remove every doubt, destroy every suspicion, that is entertained of their worth. Men of the most acute penetration, the greatest understanding, and even those who have applied themselves to the study of physiognomy, daily are and still continue to be deceived by their arts. How, therefore, may physiognomy be reduced to a true and certain science? I am ready to grant it is possible to carry the art of dissimulation to an astonishing degree of excess, and by this art the most discerning man may be amazingly deceived. But, although I most freely grant all this, I still hold this objection against the certainty of physiognomy to be infinitely less important than some believe, and this, principally, for the two following reasons:—
>
> 1. There are many features or parts of the body which are not susceptible of dissimulation.
>
> 2. Because dissimulation has itself certain and sensible tokens, though they may not be definable by lines or words. What man, for example, however subtle, would be able to alter the conformation of his *bones* according to his pleasure? Can any man give himself, instead of a flat, a bold and arched forehead, or a sharp, indented forehead, when Nature has given him one arched and round? Who can change the color and position of his eyebrows? Can any man bestow on himself thick, bushy eyebrows when they are either thin or wholly deficient of hair? Can any fashion the flat and short into the well-proportioned and beautiful nose? Who can make his lips thin or his lips thick? Who can change a round into a pointed or a pointed into a round chin? Who can alter the color of his eyes, or give them at his pleasure more or less lustre? Where is the art, where the dissimulation, that can make the blue eye brown, the gray one black, or, if it be flat, give it rotundity?
>
> An irascible man, however mild, however calm or placid a mien he may assume, cannot alter the color and lowering of his eye, the nature and curling of his hair, or the *situation of his teeth.*
>
> It will still be objected that enough remains of the exterior parts of man which are capable of dissimulation in a very high degree. Granted; but we cannot grant that it is impossible to detect such dissimulation, for I believe that there is *no kind of dissimulation but has its certain and sensible tokens*, though they may not be definable by lines and words.
>
> The fault is not in the object but in the observer.*

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* Lavater's Essays, pp. 83, 84, 85.

The last sentence of Lavater explains a great deal. If as much observation were put into the study of the human face as is given to a score of useless, fashionable accomplishments, it would be no longer the profound mystery that it is, and rogues and villains would stand unmasked before the gaze of all, and in order to associate with honest citizens would be obliged to amend their lives or be shunned as are vicious beasts and venomous serpents, whose physiognomy is understood and consequently serves as a warning to people to "stand off" or be bitten. Children even are governed by the appearance of the physiognomy in their dealings with animals. As proof I offer the following: A little girl living in the Santa Cruz Mountains once told me that when she saw a snake with a head pointed like an earth-worm she was not afraid of it, but when she met one with a broad, flat head she took a stick and killed it, for that sort were poisonous. If people were as much on their guard against the low, broad, flat-headed human serpents whom they meet, they would not be so often stung by them, for *form* here, as elsewhere in Nature, carries the same meaning that it does in the snake, viz., secretiveness, destructiveness, revenge, low instincts, bad temper, and very little, if any, Conscientiousness.

Where Conscientiousness is large it will influence all the other faculties, and will assist in producing *thoroughness* in all that one undertakes. It gives a great deal of force and courage in moral movements, and to the unskilled reader of character seems often to be combativeness or egotism, so *earnest* and *forcible* are its manifestations. Many delicate women, without a particle of true combative force, will push forward a great moral movement, such, for example, as the temperance cause or labor reform, with a vigor and boldness which resembles combativeness, but which is the effect of large Conscientiousness. When associated with Credenciveness and Veneration it will lead the infirm even to deeds which endanger life.

Each faculty, when largely developed, exhibits great power, and Self-will, when very large, throws out a force which is as palpable and tangible to the sensitive as is the presence of any material object. Large Conscientiousness makes itself felt in every company and community, and villains stand rebuked in the presence of those who are endowed with a large share of moral force and courage.

Integrity, rectitude, and moral sense are exhibited in varying degrees in many of the higher animals. The horse and dog are notable examples of its action. Indeed, some of these creatures have exhibited a higher grade of morality than many savage tribes, and would put to blush many human beings who have had the advantage of church and school education. Monuments have been erected in various cities in memory of the fidelity to a trust or faithful attachment of dogs to their masters. The most honor and honesty among animals is exhibited by those whose *bony systems predominate*, and among these classes the square-boned ones are the most honorable. Compare, for example, a square-boned mastiff with the round-boned fox, and you will have a fair understanding of the relative degree of honesty revealed by these two diverse forms and structures.

THE FACULTY OF FIRMNESS.

> "Come one, come all, this rock shall fly
> From its firm base as soon as I."

Definition.—Stability, perseverance, resolution, pertinacity, fixed methods; steady, persistent action; decision, endurance, courage, fortitude.

Excess of Firmness results in stubbornness and unreasoning dogmatism, and produces a hard, obdurate, unlovely character.

Deficiency of Firmness creates a vacillating, shifting, changeable disposition, without perseverance or capacity to carry plans and works to a finality. It makes one seem cowardly, and the lack of a developed chin has always something in it suggestive of inferiority, for no animal has a chin, and when the human being is greatly lacking in this respect he possesses the *unstable* character of an inferior animal.

Facial and Bodily Signs.—The most decisive facial sign of Firmness is the length downward and forward of the chin. Other facial signs are projecting cheek-bones and a square, bony forehead. A *predominance* of the bony system affords the best illustration of this faculty, and the bodily signs are shown by large bones and joints, long and square-boned hands and fingers, prominent knuckles, and flat, bony feet.

The sign in the chin is the most reliable facial evidence of perseverance and steadfastness. A receding chin shows a decided lack of this faculty.

Description of Firmness.—As this faculty is caused by a fine development of the bony system, we shall find its principal sign in the length downward and forward of the lower jaw-bone. Where the bones of the lower jaw are long and broad, we may be sure that the osseous system is one of the chief systems of the body; hence, the capacity for firm, unyielding, persistent action will be present. The force evolved from the action of this trait represents a certain kind of will-power or determination, yet is not pure Self-will. This faculty is derived from the muscular system, and will be described hereafter. Firmness must not be confounded with the former, for its methods of action, as well as its origin, are quite different, and after analyzing the two one would never confound them.

Firmness is a quiet, persistent force which carries, measures, and pursues plans in a calm, patient, and continuous manner, without noisy demonstration. It gives to the character the power to follow a purpose or plan with fidelity until it is accomplished, and those possessing it largely will keep the mind fixed upon a plan for years, and carry it out successfully to the end; even if great and innumerable obstacles intervene in the meantime, they will again and again return to the plan or purpose, and are never satisfied until the object is achieved. The faces of all persons who have made their mark in the world in any great enterprise disclose this sign in the face.

The bull-dog among animals is an excellent illustration of this trait, and exhibits in his physiognomy and bony build the unfailing signs for persistency. The ass and mule are examples of the perversion of this faculty. In these creatures we find an *excessive development of bone*, hence an excess or perversion of firmness, which results in obstinacy, contrariness, mulishness, perversity, dogged obstinacy, and unreasonableness. In contrast to these animals, both in character and formation, we find the several deer tribes, as, for example, the red deer, the fallow deer, the wapiti, and the roebuck. These animals have relatively less muscle than bone, and present in the contour of their jaws a most decided difference from that of the ass and bull-dog, the fox, and sheep. These animals are possessed of little firmness or persistency, and present entirely different characteristics and bodily formation from the first-mentioned animals.

Those persons whose lower jaws exhibit an excess of bone are like the mule and bull-dog in character, and, like these creatures, always show a desire to hold back and dissent from views and plans which would benefit them, if adopted, but which are opposed spontaneously and without cause by those who possess this excess of bone and obstinacy. When questioned as to the reason for this opposition, they reply, "Oh, I just felt that way." They have no *reason* to offer, and this answer reveals the natural and *instinctive* action of the perversion of this most useful and moral faculty.

Firmness assists all other traits, whether of the intellect or moral nature; so, also, does it assist the rogue in his wickedness, but, as the osseous system is not conducive to immorality, we shall rarely find any very hardened villains with this system dominant. Many rogues become such through lack of bone and chin, for, not possessing sufficient stable and firm material in their physiques to enable them to *persevere* in any steady course, they drift into crime; and herein is another proof of the moral nature of bone, for many professional pickpockets and shoplifters are destitute of a good, *square*, *bony organization*, and are long and slim, sleek and sinuous, like the dishonest classes of prowling animals, such as the coon, the fox, the opossum, the rat, and cat. These sneakish rogues are destitute in most cases of a real chin, or, at most, have a very narrow or receding one. The reader is not to understand that a receding chin is the sign of a roguish nature; it indicates the lack of firmness, and firmness is the *foundation* of *reliable*, *stable character*. Many amiable, generous, and truthful people lack chin development, but where it is both receding and narrow the character has no foundation in integrity and perseverance, without which no one can be said to be truly honest or honorable. A rogue, such as is spoken of above, exhibits the signs of his knavish character all over him, and lack of firmness or chin is only one of the many signals of warning which he holds out in order that we may avoid his neighborhood. The location of the local sign of Firmness in the face is highly significant, and announces its importance to the entire mental and bodily organization. Its nearest neighbor is Conscientiousness (shown by width of the bony structure of the chin). It is also adjoining Economy, Benevolence, Love of Home and Country, and forms the foundation of the face, and assists in creating outlines of strength and beauty. No one can be considered beautiful who lacks chin development, no matter how perfect in form and rich in color the countenance may be; a defect here neutralizes all other appearances.

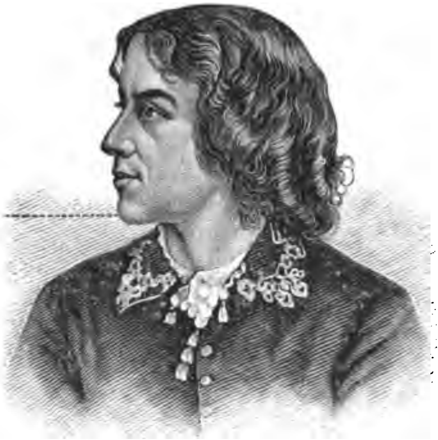

FIG. 18.—ANNA DICKINSON.

Principal facial sign, Firmness. This lady, by her indomitable perseverance, rose from a humble position to that of the first female orator of the world. Her face expresses Firmness, Conscientiousness, Force, Courage, Self-esteem, Approbativeness, Language, Memory of Events, Friendship, Hope, Analysis. Her quality is fine, and the color of her eyes and hair shows intensity of feelings and dramatic fervor. Her literary style is clear, decided, and energetic. She is a radical reformer, fearless and honorable.

All undeveloped, immature persons, such as infants and imbeciles, are lacking in firmness, hence, of chin. All undeveloped races, such as the Negro, Mongolian, etc., disclose a lack of chin development, as well as of stability and perseverance. Many animals—the ape tribes, for example—possess no sign for firmness, neither in their physiognomies nor in their general formation; for they are similar to the natural sneak and pickpocket, slim and sinuous, without any bones that are perceptible, and they are thus enabled by virtue of their build to be mischievous and tricky; unlike the horse and dog, whose bones project from every portion of their bodies, and who are relatively honest, reliable, and steady.

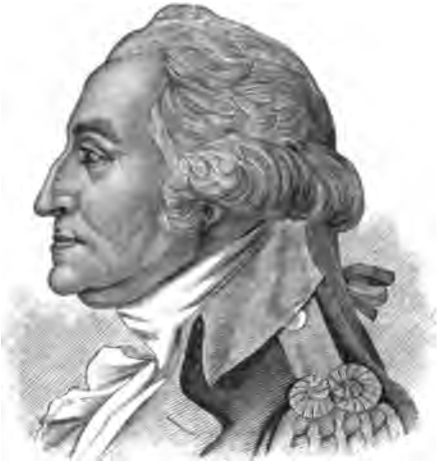

FIG. 19.

Principal facial sign, Firmness, shown by length and forward projection of the chin. This fine profile of George Washington illustrates well the faculty of Firmness. It was owing to his undaunted perseverance, firm and honorable conduct that the United States became an independent government. With less chin he could not have succeeded as he did. The profile exhibits his Firmness, Executiveness, Veneration, Self-will, and practical slope of the forehead to good advantage. He was noted more for honorable, firm conduct and general practicality than for brilliancy of intellect. Although he possessed an excellent mental endowment, it was more in the direction of practical affairs than literature, yet his style of writing was terse, clear, strong, and direct. The splendor of his character was not tarnished by any weakness.

Firmness is an attribute only of developed races and individuals. Man is the only being endowed with a chin. The length of the chin is one of the facial indications of the bony structure, and in combination with Conscientiousness (width of chin) is the base of the heroic. Indeed, Conscientiousness is the primal cause of moral action; true heroism could spring from no other motive. Firmness gives the power for *fidelity to principle*, truth, and justice. Conscientiousness needs the aid of this trait to give it *persistent* and *consistent* action. The chin is the seat of heroic character, which depends upon the firm and substantial nature of bone for its support.

A certain writer on physiognomy—Redfield—has given the chin as the locality for the signs of Amativeness. He certainly could not have considered the nature of bone in this connection. *We do not love with our bones.* Love signs are found predominating in those who are the most emotional and impressible, and bony persons are just the opposite of this. Muscle and fat are more easily acted upon than bone, and the physiognomical sign of love will be found in the *muscles* of the face, just as love is found more largely developed in emotional, muscular people. *Muscular, dimpled chins*, it is true, disclose love signs. They also show relatively less firmness. A dimpled chin tells us that the muscular system is in the ascendency, or that it is one of the principal systems in the persons exhibiting it; while prominent and broad, bony chins announce the dominance of the osseous system, together with the accompanying traits of Firmness and Conscientiousness. Bone shows more of integrity and endurance; muscle, more of the will, of art capacities, and affectional nature. Length of chin indicates perseverance and calm, firm, persistent action, rather than what is termed "will-power." This exhibits itself in sudden outbursts of violent temper, and as suddenly subsides. The long, broad and fleshy, vegetative chin must not be confounded with the former. Its indications are quite different, for the latter usually denotes commonplace or stupid minds. This distinction must be thoroughly understood. The nature of bone, like that of rock, offers a steady resistance and pressure, and large firmness is the result of a large development of the bony system. Muscle has a reactive property, and Will-power is based on and exhibited by muscular movements purely, just the same as are most of the other emotions.

Firmness is one of the most sustaining powers of the mental as well as physical organization. In long-continued illness, as well as in the severe crises of disease, no faculty, not even Hope, so sustains and upholds the patient. Anomalous as it may seem, it conquers by submitting and enduring. It gives the power for self-control and self-denial, which are so essential in every enterprise where success is desired; and Self-control is almost an omniscient faculty. Use it as we will, whether to stem the course of a disease and oppose steadily by firm and reliant will, or whether in a battle for human rights in the great reforms which shake the world to its centre, or whether used in pushing forward great, material enterprises, this faculty is the one of all others most needed.

The world is plentifully supplied with geniuses without Firmness, who, through lack of this faculty, will never be heard of as such. Examine the faces of all men and women who have *led the world* in great moral or material movements, and we shall find in every instance a full development of Firmness. A person must be possessed of the most transcendent genius to achieve a name and success without a fair share of this characteristic. There may be such, but I have never observed a physiognomy of any one who has by personal merit achieved great success in life who was greatly deficient in this strong and enduring trait. Great and powerful as this trait is, it must be *balanced* by *reason* and *conscience* to make it most effective, else it degenerates into obstinacy, which is allied to stupidity, as in the ass and mule; or savage ferocity, as in the bull-dog. All faculties need *balance* to make them of the highest efficiency, and all well-balanced characters require sufficient stability and continuity of purpose to make them harmonious and beautiful.

The signs for Firmness may be seen all over the individual in whom the osseous system is supreme. Yet one of the most reliable facial signs is the one given in the length of the chin or lower jawbone. A good physiognomist may tell, by the enlarged joints of the fingers and by the projection of the wrist-joints, or by the bony ankle, projecting heel, or long, narrow, and flat foot, that Firmness is present, for these are all signs of the supremacy of the bony system, and this trait is one of its chief attributes.

The faculty of Firmness is exhibited in all of Nature's works; in the unyielding positions of the rocks and trees; in the steady, persistent action and movement of the heavenly bodies, as well as in the fixedness of the laws rgulating the seasons and the tides; and all the constantly recurring natural phenomena tell us that Firmness is in harmony with those natural and eternal principles which have their foundations in the very nature of the universe.

There are varying degrees of Firmness observable in different characters. Some faces exhibit very little of the power to stick to anything, while others disclose a force in this direction most extraordinary. Where this trait is well developed, in combination with "Self-will," the character will be most unyielding, obdurate, and impossible to change, and unless accompanied with other controlling and modifying traits, such as Benevolence, Conscientiousness, or a strong affectional nature, the character will be irremediably hard and tyrannical. Fortunately, we rarely find this combination.

Those undertaking a serious study of physiognomy must learn to calculate the degree of control which each development of this trait will have upon other faculties in combination in every case observed. A good, broad, and long, bony chin may be covered by and surrounded with fat, and, in this case, Firmness will be tempered by the softer feelings, and, if the individual is very fat, the *quality* of Firmness will be modified; the activity of this faculty will not be so great as where there is much less fatty tissue, for a great mass of fat impedes and puts obstacles in the way of persistent, plodding methods. All these various differences in combination must be observed and summed up in the reading of a character before a true and just verdict can be rendered.

THE FACULTY OF ECONOMY.

Definition.—Frugality; saving, prudent, and common-sense use of materials, strength, and time; judicious expenditure of money; wise plans for managing the household or business in such a manner as to live within one's means; opposed in its nature and action to both parsimony and extravagance.

The physiological action of Economy is shown by a well-nourished body, which contains a sufficient store of vital materials to meet any uncommon demands upon it, as in protracted labor, long-continued sickness, or old age.

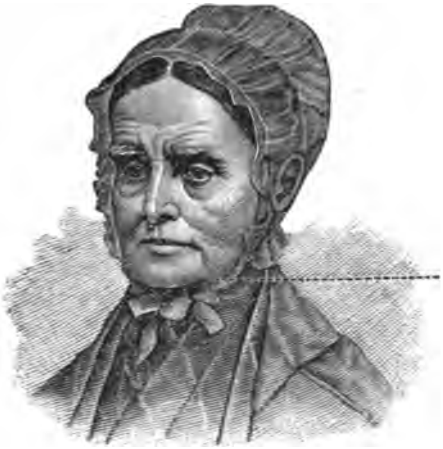

FIG. 20.—LUCRETIA B. MOTT.

Principal facial sign of Economy, development of adipose tissue under the chin and lower cheeks. The law of the straight line and square governs this face. This modest and intellectual face discloses the faculty of Economy. All womanly traits are exhibited in this countenance. Mrs. Mott was noted for her humanity, intellect, sympathy, oratory, and modesty. As a valiant reformer, her balanced judgment made her a true conservator of all her resources; her Conscientiousness led her to value time, opportunity, talent, friends, and money, and by carefulness in the use of all these she had plenty to share with others. The signs of Conscientiousness, Firmness, Mirthfulness, Friendship, Language, Veneration, Executiveness, Reason, and Benevolence are all large. Her style of argument in speaking was clear, logical, and persuasive. She was a noted anti-slavery orator, and a pioneer advocate of woman's equality, and was a cousin of Benjamin Franklin.

An *excessive development* of Economy creates a spirit of littleness, meanness, parsimony, niggardliness, and miserliness. The pinched face, thin lips, and shriveled aspect of noted misers reveal the utter poverty of their bodies, as well as the lack of a balanced and sound judgment.

A *deficiency* of Economy tends to prodigality, dissipation, injudicious use of money, time, and opportunities, and a want of appreciation of all the conservative forces of life, such as friends, home, and health; for he who has not sufficient wisdom to conserve his means usually lacks ability to protect his health, or to value friends and worldly opportunities.

Facial and Bodily Signs.—The physiological base of Economy is found in the action of the glandular system, which stores up adipose tissue for any unusual demand which may be made upon it; hence, the most decisive signs are shown by the development of that tissue in close contiguity to the mouth and chin. One very noticeable sign is the "dew-lap," a peculiar fold of fat and muscle under the chin, so called from its resemblance to the neck of the cow and ox, whose well-stored bodies show the *saving, storing* principle of *physical economy.* Other facial signs of the saving disposition are known by fullness of the cheeks below the signs for Alimentiveness. These signs point to the physical phase merely of this faculty. One very conspicuous mental sign is seen in a slight projection forward of the chin, also in width of its bony structure. A well-nourished and well-balanced body is a secondary sign, while a thin, impoverished body, with a shriveled, pinched, wrinkled and juiceless-looking face, denote a lack of this most useful trait. The physiognomies of many great misers present this appearance. The lack of sustaining power in the bodily functions deprives them of good, sound judgment in regard to the care and use of their bodies; hence, they starve themselves under the mistaken notion that they are *saving* something.

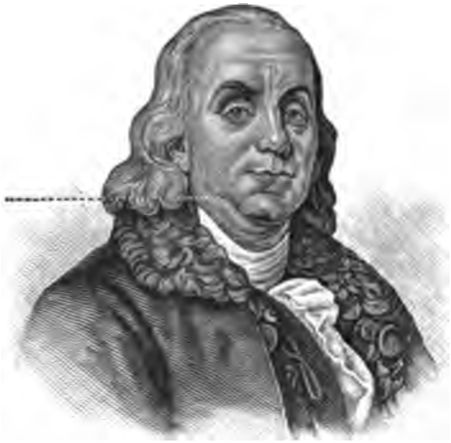

FIG. 21.—BENJAMIN FRANKLIN.

Principal facial sign, Economy. The law of the square, straight line, and true curve governs this face. Benjamin Franklin was noted for his large Conscientiousness, Reason, and Patriotism. His balanced intellect led him to be a great economist both in small and great matters. His signs for Economy, Love of Home and of Young are well defined. Friendship, Self-esteem, Language, Mirthfulness, Executiveness, Self-will, Analysis, Reason, and Constructiveness are very large. He was an inventor, a good mechanic, a discoverer, a fine statesman and writer, a patriot, and philanthropist.

Another facial evidence of the presence of the saving faculty is shown by a small, narrow mouth, with the upper canine teeth overlapping, as seen in the rat, the squirrel, and other rodents. This form of feature denotes both the acquisitive and saving propensities. It discloses the desire to gain by littles, sometimes dishonestly or by begging or hinting, etc., as well as by the love of *hoarding up* all sorts of things, each individual showing a special liking for one class of objects, yet all evincing a desire to hoard, apparently for the mere love of possession. Hoarding up materials without having any design of using them is the perversion of Economy. Using them with sense and judgment is the normal action of this faculty and function.

DESCRIPTION OF ECONOMY.—We often hear the expression, "the wonderful economy of Nature," as if Nature were obliged to be niggardly of her forces and materials in order that every requirement of the world and of the human family should be met.

Although Nature is most bountifully generous in her gifts to all, she is so by reason of not allowing anything to go to waste; all her productions are of use. A wise, prudent, and well-balanced man imitates Nature by saving that he may be generous, for it is only by thus doing that he is enabled to have anything to use in time of great need, or to give to those less able to save. Now, this principle of Nature is wonderfully manifested in man's organism, as are indeed all of the fundamental principles of the universe, and all fundamental laws of man's mind have a physical base, that is, are related directly to some bodily function from which their ability is derived. The primitive principles of man's organism manifest themselves in primitive tissues; accordingly, we should expect to find a *storing-up* function and faculty most developed or primarily receiving its impulse and power from that source which originates and manufactures, so to speak, the blood and tissues of the entire human organism, viz., from the glandular system.

This system is usually most active in childhood, and all healthy infants exhibit many of the *physical*, *facial signs* of economy in a very marked manner, not only about the mouth, cheeks and neck, but all over the entire body, thus showing by this development of the softer tissues that Nature has *stored away* sufficient vital material to meet the exacting demands of teething, and all the numerous ailments to which children in civilized life are subject. Old age also furnishes another striking example of the conserving power of Nature, for, as men and women approach the grand climacteric of fifty years of age, Nature again commences the storing up process, and both men and women, almost universally, have stored up sufficient extra tissue to enable them to keep up the normal standard of temperature, and also to aid them in meeting any demands which may be made upon their organism by disease or by the increased feebleness and infirmities of old age. It is thus that Nature provides mankind with the necessary materials with which to meet all the usual crises and emergencies of life from the cradle to the grave. A wonderful manifestation of her marvellous powers of economy, conservation, bounty, and generosity!

Now, having elaborated the idea of the physical base of what might seem a purely mental trait (as the mind is usually conceived of by the masses), I shall now proceed to show how the best-nourished and best-balanced bodies produce the wisest and most prudent plans for the economical use, disbursement, and distribution of materials.

It is a fact, patent to all observers, that all ill-proportioned persons, whether they be distinguished by grossness or an over-development of adipose tissue, on the one hand, or whether they lack a normal supply of this element, or if they be characterized by great angularity (caused by over-development of bone and a disproportion of the softer elements, such as fat and muscle), on the other hand, do not occupy positions where the wise and judicious use of means *on a large scale* is demanded, for the reason that their minds, like their bodies, are out of proportion; hence, the highest talent in the direction of laying out money or using material resources is lacking in these classes. Men of broad and sound judgment are never characterized by disproportioned bodies, but, like Benjamin Franklin and George Peabody, and other noted conservators, are noted for a certain degree of symmetry or harmony in their physical and mental structures. Now, unless Nature has in the first place endowed one with the *possibilities* of a well-proportioned body, it is not to be expected that he will develop such symmetry of body and mind as will enable him to be eminent in the management of material or mental resources. The bodies and faces of misers reveal the inharmony, disproportion, and angularity or one-sidedness of their make-up, and this one-sidedness is shown by the smallness of their ideas, the narrowness of their lives, their utter lack of influence upon their friends and in their community, and by their illiberality in every thought and deed. Most of them are narrow-minded, and all lack the social feelings which are so pronounced in men of breadth; the domestic nature is deficient, and although some of them have, at certain periods of their lives, exhibited considerable mental ability, yet the manner of their living, by denying themselves the most ordinary comforts, and living without the practice of the social and domestic virtues and obligations, proves the poverty and inharmony of their minds.

As a normal or balanced degree of Economy discloses a normal or balanced condition of mind, so an excessive amount of this trait announces a deficiency of other traits for which this is in some sort a compensation. The sign shown by a slight elongation of the bone of the chin I have observed in many worthy characters. Where this is conspicuous, it is caused by a combination of Conscientiousness and Firmness, and arises from a conscientious desire on the part of the subject to preserve from destruction any thing of any value whatsoever, while Firmness gives continuity. Now, most persons who present this sign have generally some difficulty in acquiring, for which this trait is the compensation. One may be slow in his movements, hence not able to compete successfully with the more capable. Another may have fewer tastes to gratify, hence has less mental energy to put forth in acquiring, and Nature gives as a substitute the faculty of holding on to and storing up little by little small gains, thus preserving this class from want and destitution. I have observed characters, in whom the saving principle was most decided, who were able to earn little as compared with many others, and yet, by reason of their more simple tastes and habits, had more means laid up at the year's end than those who earned many times as much.

True Economy is not meanness nor parsimony. It is only by practicing it that we are able to be generous or benevolent. Spendthrifts are never able to give for the reason that they have nothing laid up for emergencies. Prodigals of health have never any strength to impart to others. It is only the prudent conservator of both means and health who is able to benefit and bless mankind by his strength and resources.

Acquisitiveness is not Economy. It is a distinct faculty proceeding from a distinct base, viz., from the muscular system. One may have great power to acquire and very little ability to save his acquisitions. This is so well understood that we often hear business men say, "Oh, it's all very easy to get money, but it's not so easy to keep it." Economy, in its mental aspect, is an ordinance of Nature, impelling us to store up for the future, for old age, for sickness, and all the emergencies of life. Acquisitiveness is never satisfied, while Economy derives constant gratification from every act which tends to save, by self-denial of luxuries, etc.

The primitive facial and bodily signs of Economy are most conspicuous in childhood, and are observed in the soft tissues. The mental signs, particularly the sign in the chin, are not so prominent in youth, for the reason that the mind, the intelligence, has not been put into operation, hence has made no impression upon the features; neither has the osseous structure of the chin reached its ultimate form and development. After a long course of years spent in *petty cares* and *small savings* an impression is made upon the face, and shows by very fine wrinkles lying in every direction. A well-balanced mind is able to use all its resources with prudence and judgment; this is a high phase of Economy, for true Economy wisely conserves health, and is thus enabled to bend all the energies of the mind to useful and benevolent endeavor.

Common sense in the management of one's means and opportunities is a part of true Economy, and proceeds from a development of this part of the mental equipment. Misers, and those who possess an excess of Economy, starve the body and thus weaken the mental powers, under the mistaken notion that they are *saving* something. A true economist provides good, nourishing food, knowing that by this course he will create mental and bodily vigor,—the source of all wealth. Good living is the best economy.

Real economists have always something to give, and love to give to those who will make a sensible use of their gifts.

Economy, large in combination with literary tastes, leads to collecting and saving books and other literary matters; with Ideality and Color large, Art objects will be the aim of the individual; with Hospitality large, foods and drinks will be gathered and stored; and, with large Caution, an almost morbid fear will lead to extra exertions in laying up supplies for future needs. The saving traits of some animals, insects, and birds are remarkable. Ants store away under ground, in most ingeniously constructed dwellings, large supplies of food for winter use. The dog buries his surplus bones, but does not make such elaborate preparations for preserving his food as many animals, for the reason that he has greater abilities and better opportunities to procure food as he needs it. The entire family of rodents, viz., the rat, the mouse, the beaver, the hare, the gerboa, the chinchilla, the springhass, the dormouse, the several species of squirrels, the mole, the prairie-dog, the marmot, the lemming, and hamster are noted economists; the latter is, perhaps, the greatest "economist" of all, for his hoarding propensities are so great that as many as sixty pounds of corn have been found in the home of one of these creatures and one hundred pounds of beans in that of another (J. G. Wood). All of these creatures exhibit the sign by the narrow form of the mouth and the overlapping of the teeth.

The same providence is manifested by various birds, notably by the magpie and owl, which in their predatory excursions seize upon and bring to their nest anything of an edible nature which they can carry in their beaks, while in the nest of the magpie stores of many curious articles have been found which were quite beyond the requirements of the bird.

The black bear furnishes an example of the economy of Nature, who, by a singular provision of stored-up tissues, enables the beast to hibernate five months of the year without a particle of food, and yet it will come forth from its long lethargy fat and in good condition. The stored-up vitality of this hardy creature is, of course, the source from whence it derives its sustenance. The *broad form* of the bear well illustrates the principle upon which Economy is based, for the same form is characteristic of those wise and prudent men who administer economically the affairs of large enterprises, that is to say, with wisdom and prudence.

A well-proportioned face and body, one neither too broad nor too narrow, neither too tall nor too short, if of fine quality, is the structure which will manifest the most economy. A fair development of the muscles, with a good degree of the vegetative system in combination, is essential, and these by their action and development produce a form and faculty suited to the exercise of the fine virtue of saving and using wisely. As the highest degree of reason depends upon a well-nourished body for the strength and vigor essential to protracted and profound cogitation, so Economy in its highest aspect depends also upon the power which is derived from a well-proportioned and vigorous physique.

When we arrive at the analysis of the mental aspect of "mental" traits, we have to investigate the body, and we shall find that the highest mental traits, viz., the Will, the Reason, the Memory, the Conscience, and the Imagination, are all created and sustained by the action and development of the various organs and systems within the body.

LOVE OF HOME.

Definition.—Attachment to one's domicile or residence; love of the place where one was born or reared; desire to live always in the same locality.

An *excessive development* of this trait is shown by those who are of mediocre talents and abilities, rather than by the enterprising, for ambition leads one far from home and over many lands; although many great-minded people retain an ardent affection for their birthplace and home of their childhood. Nostalgia, or homesickness, a species of melancholy, results from an excessive love of one's home, while forced to be absent from it.

The French are particularly distinguished by the development of the love of home and country, and if forced to reside away from it many of them suffer with longing to return. The English are noted for their love of home, yet are quite cosmopolitan in their ramblings and in the desire to acquire by *conquest the homes of others in all parts of the world.* The Americans are also cosmopolitan, yet content themselves with travelling to other lands when they tire of their own.

A *deficiency* of this faculty leads one to travel and roam from place to place. Such characters find a home in every hotel and can be happy under any roof and sometimes without one. Discoverers and adventurers are lacking in Love of Home and regard the world at large as their home.

Facial and Bodily Signs.—Fullness at the sides of the under lip, just below the sign for Benevolence, and adjoining the facial sign for Patriotism.

Description of Love of Home.—Love of Home is a purely domestic trait and is found in varying grades of development in every individual and in all races. Islanders, as a rule, are more locative in their attachments than those who inhabit continents and can roam at will over vast expanses. The English afford a good illustration of insular attachment to home, many thousands of them never having left their native country, while many more, though possessed of ample means, have never seen their metropolis,—London,—while Americans, in the same financial condition, would have visited every part of Europe and thought it no more than a holiday trip.

Many races of men seem to be entirely destitute of all locative affection. The Bedouin finds his home wherever he erects his tent, and there are many persons among civilized races where Love of Home is on a level with the Bedouin. The love of home is founded in a desire for "creature comforts,"—love of eating, a comfortable place to sleep, and a domicile which affords ease,—hence its primary need points to the digestive function as its source and origin. Long-continued observation on my part led me to observe its sign to be a fullness of the lower lip, just under the sign for the glandular system (fullness of the under lip), and, considering the *domestic nature* of this trait, I found that it was indebted to the functional action of the glands for the base of supply.

The logic which proceeds from a consideration of the location of the visceral organs and their mutual interdependence upon each other leads irresistibly to the belief that the signs in the face of each group of faculties, as, for example, the domestic, the artistic, the literary, the practical, etc., are all so placed in the face in such manner as to mutually assist in pointing out their physiological origin and mental meanings. Time and observation on my part decided definitely the locating of all the domestic traits in and about the mouth, for the primary requirement of Love of Home is that a full share of food shall be easily obtained, without roaming abroad for it. One would soon weary of a home in which there was lacking that first essential of life. The wild beast forsakes his lair when his food-supply is exhausted, and only returns to it when he has acquired a sufficiency of prey to bring back to share with his young, and thus provide *the first requisite for a home*, viz., Food.

Love of Home in its higher and more refined aspects—as seen in the civilized races—is one of the most solid and enduring traits, and serves to ennoble and purify any race or nation in which it is paramount. The Hebrew race, although without a country of their own, and withal having been exposed to the most bitter persecutions for ages, still preserve a more ardent and intense love of home and family ties of any race in existence, and this one trait, I am convinced, is the very base and firm foundation of their material prosperity. Their constitutional vigor, the result of their strong digestive capacity, points to the glandular system as the origin of this vigorous home attachment.

It is a fine piece of worldly foresight and economy on the part of any man to make the *foundation* of *his home sure.* The father of a family should never, under any pretext or pressure whatever, sell the roof from over the head of his wife and children. He should stop at the threshold and never invade those sacred precincts for any purpose, except to build up and beautify them. The birds and beasts teach man a lesson in this direction, and tiny father-birds help to build a home for the family before they *presume to rear one;* and then, having built it, they keep it *inviolate* until the birdlets are reared and have flown from it. Some birds, like some people, change their abode twice a year. Some people change oftener, yet seem to have a love for the comforts of a home when in one.

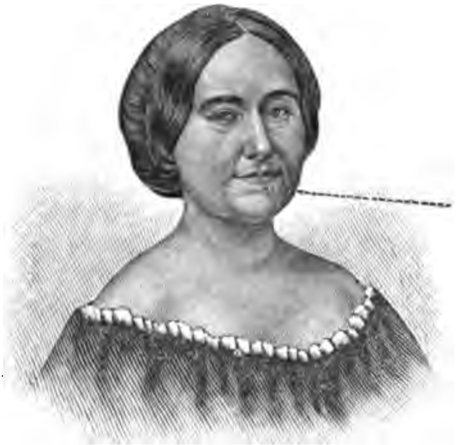

FIG. 22.—MAD. OCTAVIA WALTON LE VERT.

An American writer and traveller, born in Georgia, 1820. Principal facial sign, Love of Home, shown by fullness of the centre of the lower lip. The law of the curve governs this face. This distinguished lady was as widely known for her unbounded hospitality as for her writings. All of the social virtues shone forth in this friendly face. Amativeness, Love of Young, Mirthfulness, Approbativeness, Hospitality, and Friendship form a beautiful basis upon which rest her literary faculties. Among them are Constructiveness, Human Nature, Language, Form, Size, Color, Locality, Memory of Events. These traits were her most decided characteristics and ennobled her life and adorned her writings.

The love for and attachment to one's place of residence depend upon the degree of continuity and stability one possesses in combination with Love of Home. Muscular people, although fond of motion, are yet capable of strong local attachments. Those possessed of a great share of firmness like to remain in one place, by reason of their persevering nature. Vegetative persons will, like the vegetative animals, go where food is plenty, yet are inclined by reason of their size and indolence to remain stationary, and are often credited with the possession of true domesticity, whereas it may be only disinclination to move or make much physical effort. I have known many women who were falsely judged to be of a domestic nature, simply because, cat-like, they remained at home where they could enjoy ease and comforts without exertion. In such cases it is not local attachment which holds them stationary, but a *love of self* and selfish ease and enjoyment.

Where the sign for Self-will is large (known by fullness of the muscle between the eyes), together with the sign for Love of Home, the character will possess most ardent attachment for and desire to have a permanent dwelling-place. A person with this combination will experience great unhappiness at being obliged to leave home, even for a night or a short journey, and in youth will suffer seriously from homesickness if obliged to leave home. I have known many adults, also, both male and female, to become ill through being obliged to leave the home of their childhood or other long-occupied residence. In these days of facilities for travel, we see little of this disease, except among young children who are sent away from home and parents. The Bedouin of the desert regards his shifting home among the sands with much pure affection and thinks it a most delightful abode, and, although he has no exact spot upon which to pitch his tent, he is happy anywhere within its boundaries; but when obliged to live temporarily in a town he becomes dissatisfied and longs most earnestly for his nomadic life. Emerson tells us of the English, that "they are a people scattered by their ways and affairs over the face of the whole earth, yet homesick to a man."*

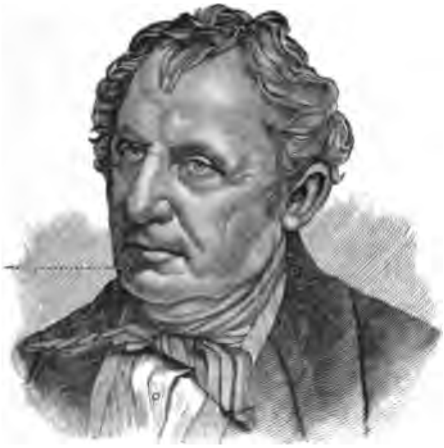

FIG. 23.—JAMES FENIMORE COOPER.

An American novelist, born 1789. Principal facial sign, Love of Home, shown by fullness of the centre of the lower lip. The law of the straight line, square, and curve governs this physiognomy. This distinguished writer was original, vivid, and humorous, and displayed great knowledge of human nature in his writings, which were "instinct with the spirit of nationality." His face discloses Love of Home and Patriotism in a marked manner, while the signs of all of the domestic and social faculties — Benevolence, Amativeness, Mirthfulness, Love of Young, Hospitality, Economy, Approbativeness, Conscientiousness, Firmness, and Friendship—are all very pronounced. The signs for Ideality, Constructiveness, Sublimity, Mental Imitation, Human Nature, Analysis, Veneration, Executiveness, Self-will, Language, Form, Size, Order, Color, Locality, and Memory of Events are most decided. His nose is broad on the back the *entire* length.

The love of home is so universal and ingrained, both in man, beast, bird, and insect (in varying degrees and shown by many diverse manifestations), as to warrant us in considering it one of the primitive faculties, and hence its local sign in the face is found in the lower or vegetative domain, and in the domestic group; it is near to the local sign for Conscientiousness and Firmness, both of which assist it in preserving the integrity and permanency of the family institution. Conscientiousness, it will thus be seen, is the grand faculty which enables character to weld together not only the domestic faculties (where it is greatly needed), but it binds the individual to love of country, to offspring, and to conjugal companions.

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* English Traits, R. W. Emerson, p. 56. 1876.

Children who are reared in a permanent home have usually more stable attachment for home than those who make frequent changes. The love for the land, the trees, and flowers about one's early home is never lost, and in old age is fondly and regretfully remembered.

In order to cultivate this most important trait of character, parents should strive to make home the most attractive place on earth to their children. *Good, bright lights* at night is one feature which should never be neglected. I have observed in many farm homes, particularly, a single, dim light, which served only to make the darkness visible through the long winter evenings. No wonder that the sons and daughters in such a home found it irksome, and desired to go *anywhere* rather than stay in such a dim, forbidding place. A good, bright light induces cheerfulness and contentment. Next to this, *a bright fire* in cold or chilly weather is a prime essential to making the home what it should be. Children love light and warmth, and these two comforts will compensate them for the absence of many luxuries.

The study of *home accomplishments*, as well as the practice of home duties, assist materially in developing Love of Home. Boys as well as girls should, if they have taste or talent for music, be encouraged to practice it, for it will lead them more into home associations, and into the society of their sisters and other girls, and such associations are far safer for a boy than the corner grocery, the stable, and saloon,—places which boys and young men often visit by reason of their ignorance of any accomplishment which would draw them into domestic associations, either in their own home or in the homes of others. Music, drawing, painting, designing patterns, wood-carving, modelling, and floriculture are equally desirable for boys as for girls, and all promote refinement and habits of industry, as well as Love of Home. Books, both solid and amusing, should be purchased. It always makes me sad to enter a home where books are scarce, for I know that one grand element of character-building is absent.

No child can be truly happy in its home, no matter whether it be a hut or a palace, unless it be reared in habits of industry and order. Chaos is as distressing to most children as it is to most adults. Spoiled and indulged children are never happy, and consequently cannot be transformed into good and useful men and women. Order, industry, exercise, and amusement should be the ruling and guiding principles in all well-regulated homes. Children trained up in these principles are never unhappy, and always love their home. Even in play children love system and order. Witness the eagerness with which the little kindergartners assist in their plays and games, which are carried on by rule and method.

True domestic character is as much the result of cultivation as is art, music, or science, and the *home* is its school. All domestic ties should be cultivated and strengthened by keeping anniversaries of births, marriages, deaths, and other important family affairs. Little feasts and excursions for the benefit of the "wee ones" should be made, and each child should be made to feel its importance as a member of the family; not only this, but it should be trained to certain duties, no matter how slight, and these should commence almost in infancy. Certainly at three years of age duties of some sort should be placed upon every child, even if no more than placing its father's slippers and newspaper regularly. The up-building of character—of domestic character particularly—must be strengthened in the early years of childhood, for then, the child being malleable, its character can be formed and fashioned in such manner as to outlast all subsequent influences and impressions. Mothers who desire to make their children true home-lovers and true domestic companions must build *early* and wisely to make the love of home paramount, for this trait is the very corner-stone and foundation of all that is good and great in mankind.

PATRIOTISM.

"My country, 'tis of thee,
Sweet land of liberty,
Of thee I sing."

Definition.—Love of one's country, its people, scenery, laws, and institutions; regard for its glory and prosperity.

An *excess* of Patriotism is not a very common complaint in these days of rapid transit; yet many races, notably the English and French, are quite enthusiastic in their praises of their own land. The Irish, also, refer to the land of their birth and miseries with great fervor, but with a strange inconsistency leave it in large numbers. Their excessive love of country makes them clannish and prevents them from assimilating with other races equally good. Intense love of country creates boastfulness, offensive egotism, and assumption of superior qualities on account of being born in a certain latitude. To remedy the latter defect one should endeavor to cultivate a more cosmopolitan spirit, a wider comprehension of the "fatherhood of God and the brotherhood of man." Reflection will teach us that no nation or race has a monopoly of virtues, but that the best traits of human nature are about equally divided, and that if one nation does not advance as fast as another it is through want of liberty,—the only hindrance to elevation and advancement.

A *deficiency* of Patriotism makes one unmindful of one's country, and may arise from one of two causes,—from narrowness and petty selfishness, or from a broad and philanthropic humanitarianism, which leads one to look upon all the world as one's country and its inhabitants as one's own people. The latter class recognize no racial divisions, but regard as brothers all mankind.

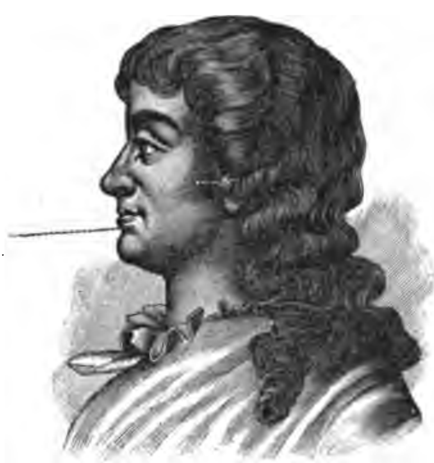

FIG. 24.—MAD. MARIE JEANNE PHILLIPON ROLAND.

Celebrated French writer and patriot, born in Paris, 1754. Principal facial sign, Patriotism, shown by fullness of the centre of the lower lip. The law governing this countenance is that of the straight line and curve. This beautiful face represents a character at once lofty and self-sacrificing; her writings now extant breathe a spirit of patriotic heroism rarely excelled; she was guillotined for her devotion to her country, and expired exclaiming, "O Liberty, what crimes are committed in thy name!" The signs for Firmness, Love of Young, Mirthfulness, Patriotism, Benevolence, Hospitality, Friendship, and Approbativeness are most marked in this countenance. The mental signs in the nose—Analysis, Mental Imitation, Sublimity, Ideality, Constructiveness, Veneration, and Hope—are very large. The neck is straight and statuesque, and denotes strong Self-will; the wavy hair indicates agreeability. Altogether a noble countenance.

> Minds which have any claim to greatness are capable of divesting themselves of selfish considerations; they feel that they belong to the whole human race, and their views are directed to posterity alone.
> —MAD. ROLAND.

Facial and Bodily Signs.—Patriotism is shown by fullness of that portion of the chin below and adjoining Benevolence, while Love of Home lies just forward of it, toward the inner part of the chin. It is exhibited by glandular development.

DESCRIPTION OF PATRIOTISM.—The love of one's own country is a sentiment which finds a response in the hearts of all races and conditions of men, yet it is distinct from Love of Home in its action. A man may be a zealous patriot,—loving ardently the land of his birth,—yet not having a strong local attachment to any particular spot or place within its boundaries. Many wandering tribes among uncivilized races illustrate this peculiarity, yet in civilized communities the two domestic sentiments of Love of Home and Love of Country are usually found united in varying degrees; some exhibiting more of one than of the other trait.

Love of Home is a faculty which is strengthened and developed by every-day life, while Patriotism is a trait which develops best under the excitement and stimulus of great crises in a nation's existence rather than by its daily, habitual exercise. To become a patriot of a high order, such as Washington, Jackson, Jefferson, and Paine were, there must necessarily be a combination of high and lofty faculties, together with great intellectual power; but the Love of Country, pure and simple, may glow as brightly in the breast of the humblest citizen or common soldier as it does under the uniform of a general.

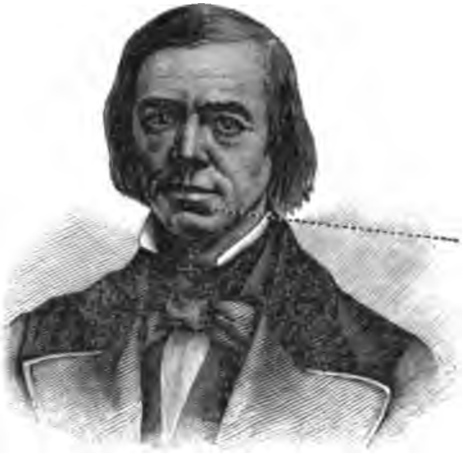

FIG. 25.—THOMAS STARR KING. (ORATOR, DIVINE, WRITER, POET.)

Born in New York, 1824. Principal facial sign, Patriotism, shown by fullness of the centre of the lower lip. The law of the straight line, square, and curve governs this countenance. This wonderfully illuminated face and speaking eyes reveal the fire of patriotism which burned within. Thomas Starr King stood in the first rank as an orator, preacher, poet, and writer. His patriotism kept alive the Union sentiment of California during the late Civil War; his style of oratory was logical, rhetorical, and magnetic. Under the excitement of his emotions when speaking of the Union and the old flag his eyes fairly blazed with patriotic excitement. The facial signs for Love of Home, of Country, Love of Young, Friendship, Benevolence, Amativeness, Conscientiousness, Approbativeness, Veneration, Sublimity, Analysis, Mental Imitation, Constructiveness, Ideality, Form, Size, Language, Order, Memory of Events, and Reason are most decided. The dense color which shone in his eyes, hair, and complexion gave force, intensity, and dramatic fervor to his utterances.

The scope of this faculty is very wide, and demands exercise in different ways in different peoples. It looks to governments as a means of protecting the citizen within and to repel invasion from without. Men institute governments which in their quality are the exact expression of their grade of development as human beings. The savage seeks and erects an absolute despotism; some of the European nations are under constitutional governments,—England, for example; and in this country the people are more generally intelligent, hence more capable of self-government. In our country, America, every man is a sovereign, and equally responsible with every other man for the stability, integrity, and perpetuity of the government; and, according as the laws are administered and justice meted out, just so far does the existing condition of affairs represent the grade of development to which we have attained, morally and mentally.

In respect to our grade of the moral sense or sense of justice we have need to take a great step forward and rise to the height of perfect justice, and give to our women citizens the right of suffrage, in order that their moral and purifying influence may assist in elevating to grander heights of justice and nobility our otherwise unsurpassed government and country. England has set us a worthy example in this respect, and now all her women citizens are clothed with the franchise,—provided they have the necessary property qualification.

Love of Country combined with Friendship leads men to unite for the common good; with large Veneration, obedience to law and order results; with Force and Resistance large, will defend the honor and interests of country; and with Order in combination, will seek to frame laws for the maintenance of its institutions.

Patriotism, like all other faculties, can be cultivated under the proper stimulus, and one of the best methods is to teach *children* to memorize the speeches and poems of our greatest patriots, as well as to familiarize them with the grand actions and utterances of the patriots of all nations. No better or more patriotic address than Webster's reply to Hayne, delivered in the Senate of the United States in 1830, was ever heard. Perhaps his oration at the dedication of Bunker-Hill Monument comes nearest to it in grandeur and patriotic feeling, and these two monuments of his greatness and power have come down to us Americans and should be considered a precious legacy, which ought to be engraved upon the heart and mind of every American citizen, without regard to sex.

This faculty is a primal and universal one, and is adapted to the requirements of all lands and races; hence, the situation of its local sign is in the *primitive* group of faculties, and its physical support is derived from the action of that primitive function,—the intestinal system,—and from its glandular division.

No mental faculty presents a more lofty aspect than Patriotism when allied to Sublimity, Language, Reason, Friendship, and large Love of Home and of Children. This combination gave the power which inspired the speeches of Webster, Clay, Adams, Calhoun, Wirt, Pitt, Madame Roland, Fox, Sheridan, Emmet, and Gambetta, in our times, and the eloquent and impassioned arguments of Cicero and Demosthenes in former ages.

One patriot like Thomas Paine can change for the better the destinies of millions, for it was his patriotic and fearless sentiments in the cause of liberty which more than any other shaped and molded public opinion in such manner as to bring about the Declaration of Independence and the freedom we now enjoy.

Love of Country is one of the most unselfish traits of human nature. It ranks with gratitude and moral courage in the grandeur of its purposes, which are entirely altruistic. The patriot seeks not only the good of his fellow-countrymen by whom he is surrounded, but endeavors to perpetuate such laws and institutions as shall shield and protect the interests of multitudes yet unborn,—those who are to come after him. Every patriot cannot be an orator nor a general, yet every man and woman possessed of ordinary intelligence and patriotism can comprehend the *principles* of government, and assist in carrying them out. All true citizens should investigate *principles* and leave *politics* to the tricksters and political shysters who disgrace our national governmental affairs. *Principles*, not *politics*, should be the study of all true lovers of their country. I know of no term which expresses so much that is low, vile, and degraded as the word "politics." It has become degraded by its uses and associations, and the sooner we expunge it and its operation from governmental matters, the better for all true patriots. There is nothing elevating in the study of politics. Men, knowing this, are doubtless right in their opposition to women "dabbling in the filthy pool of politics;" and until this filthy pool is cleaned by substituting the discussion of principles of justice, truth, and purity, it is no place for woman. The various organizations, in this and other countries, which are conducted by women in the interests of humanity, such, for example, as the "Woman's Christian Temperance Union," the "Moral Education" societies, and the various "Labor" associations, which discuss and promulgate personal rights, moral integrity, and the higher laws of justice, are fast educating the masses of both men and women to a comprehension of such principles as will lead to a government in which woman's influence will be needed, for to divorce the higher moral sense of woman from participation in the government is like excluding the sunlight from the earth; and just so long as this course is persisted in, just so long will the vile weeds of intemperance, immorality, and injustice thrive and flourish, and our homes continue insecure and unsafe abodes for women and children. In order to make the home inviolable, that larger home—the nation—must be correspondingly pure, just, and safe; but how can this be so while a man-made government licenses one portion of its citizens to prey upon, destroy, and make mad all other portions of its citizens? How can the home be a secure and safe place for pure women and tender babes, while the demon of intemperance is given full liberty by legal enactment to make widows and orphans; to rob, murder, and destroy all people without regard to age, sex, or condition? Since one portion of our citizens, after over one hundred years of experiment, have not succeeded in protecting the home and in making the country a safe place for our children, would it not be good policy to let the most moral and home-loving of our citizens assist in the work of reconstruction? It surely could not be worse; hence the experiment would not work more harm than the present method. I will here make the prophecy that not only will woman participate in governmental affairs equally with other classes of citizens in the year 1900, but that we shall have then a true republic in which the government in all its departments shall be operated at the "price of cost in the interest of the *whole people*," and not, as now, in the interest of the bankers and monopolists. Then, indeed, will the heart of the patriot glow with pride and gratitude as he enjoys the fruits of his labors and the home of his childhood, and the home of his wife and mother be truly and surely protected by having made that larger home, the nation, a place of purity and justice. Then can he exclaim with the poet:—

"Our country! 'tis a glorious land,
With broad arms stretched from shore to shore.
The proud Pacific chafes her strand;
He hears the dark Atlantic roar;
And nurtured on her ample breast,
How many a goodly prospect lies,
In Nature's wildest grandeur drest,
Enameled with her loveliest dyes.

. . . .

"Great God! we thank Thee for this home,
This bounteous birth-land of the free,
Where wanderers from afar may come
And breathe the air of liberty.
Still may her flowers untrampled spring,
Her harvests wave, her cities rise,
And yet till Time shall fold his wing
Remain Earth's loveliest paradise."—W. J. PALODIE.

Patriotism is a virtue which often demands the greatest tests of sincerity and exacts the highest sacrifice which men can make, for many of its grandest representatives have given up life, fortune, and family for the benefit of their race and country. Yet, in these sacrifices there is to patriots a joy and satisfaction uncomprehended by ordinary mortals. It is a law of human nature that the exercise of the dominant faculties is productive of the highest enjoyment, and doubtless many of the patriotic victims who have died upon the field of battle, or who have suffered upon the scaffold, could have said with Madame Roland:—

> Truth! Friendship! My country! Sacred objects! Sentiments dear to my heart, accept my last sacrifice. My life was devoted to you, and will render my death easy and glorious.

BENEVOLENCE.

Definition.—Sympathy, generosity, philanthropy; the love of doing for and giving to others; the desire to relieve and ameliorate the wrongs and sufferings of one's fellows; good-will, kindness, charitableness, love of mankind.

An *excess* of Sympathy makes one liable to imposition by unworthy objects, or leads to the neglect of one's own nearer duties in the endeavor to assist others. Excessive generosity tends to impoverishment and to the injury of those who have claims upon us.

Deficient Sympathy and charitableness creates hardness of heart, a churlish, indifferent or inhuman nature. It makes one selfish and regardless of the sufferings of others.

Facial and Bodily Signs.—A full, rolling, red and moist under-lip is an unfailing indication of a sympathetic, generous, or benevolent disposition. In combination with large reasoning faculties and constructiveness we find the *philanthropic phase* of this many-sided trait. This endowment is very marked in the physiognomies of Wilberforce, Thomas Paine, George Washington, Peter Cooper, and other eminent philanthropists. As a rule, the grossly fat individual is less sympathetic than those who have a more *active* body; too much fatty material makes one think mainly of one's own comfort, while excessive weight of flesh incapacitates one for those activities of mind or body which are essential to the duties appertaining to true benevolence.

The best organism for the exercise of benevolence is one in which there is a good development of the nutritive system, without too great a deposition of fat. The horse is, perhaps, the best type of a benevolent animal, and he exhibits a long, thin face, with a well-nourished and a strong, capacious body, neither too fat nor too lean.

Description of Benevolence.—Benevolence is a faculty of large powers, and manifests many diverse modes of action; hence it is that one single word fails to convey a clear and precise statement of its scope and meaning. The fullest expression of physiognomy demands a new coinage of language. Lavater felt this want and often referred to it. All other sciences have coined words to meet new knowledge: Chemistry, for example, and other sciences, have found ordinary words wholly inadequate to express newly-found laws, substances, qualities, and conditions, and the physiognomist finds such innumerable and diverse manifestations of Benevolence, as well as of all the other faculties, that he is often at a loss to properly designate each one of its several phases.

Some individuals exhibit the sympathetic phase of Benevolence by spontaneous and practical assistance. Others disclose their form of sympathy by listening to recitals of woe, and exhibit intense feelings of sorrow, and by weeping in concert with the suffering assuage their grief by exhibiting more grief. Others display the generous aspect of Benevolence and instantly put the hand into the pocket and say to the bystander, as did the Quaker, "I am sorry five dollars, friend; how sorry art thou?" Yet this class of persons would never think of offering *personal service*, such as nursing the sick or assisting in any labor requiring personal effort. Others, again, evince their benevolent feeling by always stepping in to fill the want of laborers in times of sickness or great public disasters and calamities.

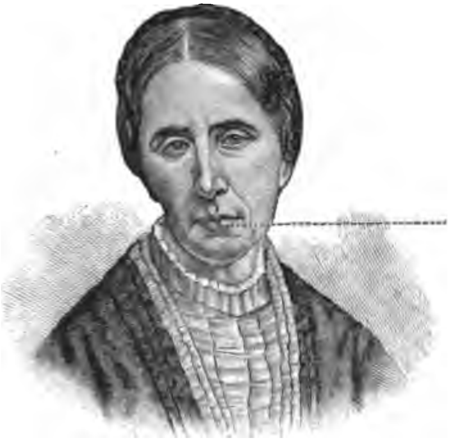

FIG. 26.—LADY ANGELA GEORGINA BURDETT-COUTTS BARTLETT-COUTTS.

Born in England, 1814; noted philanthropist. Principal facial and bodily sign, Benevolence, shown by fullness, redness, and moisture of the lower lip; long, slim face and body. The law of the straight line and angle governs this countenance. This truly sympathetic face reveals a benevolent and noble character. The munificent charities of this generous woman in every part of the globe rank her with the world's greatest benefactors. The signs for Modesty, Love of Young, Love of Home, Patriotism, Conscientiousness, Veneration, Ideality, Cautiousness, Executiveness, and Reason are all well defined. The world is greatly indebted to this elevated, pure-minded, and generous lady.

Those with large reasoning powers, constructiveness and practical traits—like John Howard, Wilberforce, Peabody, and Godin—lay broad and wise plans for the amelioration of large numbers of suffering human beings. This is the *philanthropic* phase of Benevolence, and in its scope and intent is directly opposite to the act of the sympathetic women who are always at the back door to deal out cold victuals and old clothes to every comer, without regard to the worthiness of the applicant. The latter expresses Benevolence without reason, while the former shows the very height of this noble and unselfish trait. Each form of sympathy is required for the world's necessities; hence, the one who feeds the wandering beggar and he who plans wisely for the uplifting of masses of the downtrodden and helpless expresses each in his own way the action of Benevolence. Wherever we find all forms of this trait lacking, there we shall find one whose physical, moral, or mental nature is sadly deficient. Certainly an impoverished condition lies at the root, for he is poor, indeed, who has *nothing* to give, and whose nature never prompts him to an act of kindness or a word of sympathy and encouragement. It is not essential that one should be constantly *giving* money or material to demonstrate the presence of Benevolence. This may be shown in a hundred ways,—by kindness in speech, especially to the poor and unfortunate, to one's servants, and to the aged, as well as to children and animals.

One of the most *unselfish* characters I have ever met seldom gave money or property, but was constantly assisting others to help themselves by procuring employment for them, by working in charitable societies, and by influencing others to deeds of charity and benevolence.

Among the most *generous* men I have met was one who had a thorough dislike to visiting the sick, going so far as to refrain from caring personally for his family and friends in sickness, yet would give lavishly of his money and goods, and at the same time would avoid performing any labor among those suffering from illness. This gentleman was lacking in Friendship, hence Nature compensated him with an increased capacity for generosity, freehandedness, and lavishness.

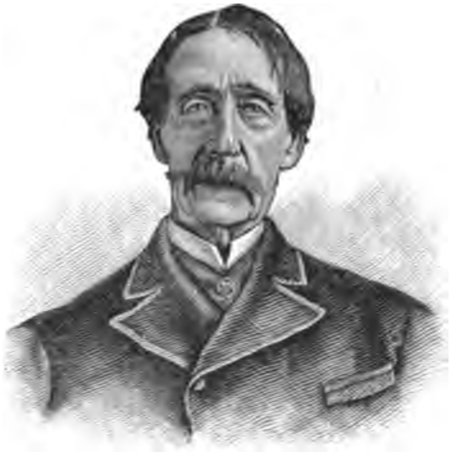

FIG. 27.—HENRY BERGH. (PHILANTHROPIST.)

Principal facial and bodily signs: full, red under-lip; long, thin face and body. The law of the straight line and angle governs this organism. Henry Bergh was the founder and first president of the New York Society for the Prevention of Cruelty to Animals. This sympathy was exercised in a most self-sacrificing manner for the protection of the most helpless class among us—our animal relatives. The long, slim face and body assures us that he has not expended his means and time in social convivial enjoyments, hence he has not packed upon his frame a large quantity of soft, fat tissue. This gentleman endeavored to humanize humanity by teaching them how to treat the beasts of the field according to their nature and deserts,—a truly religious mission. The sign for Benevolence in the lip is somewhat changed by age and the moustache, but the facial and bodily build tells us it is or was as described, viz., full, red, and moist. The signs for Conscientiousness, Firmness, Self-will, Self-esteem, Order, Acquisitiveness, Veneration, Executiveness, and Reason are large.

Thus, it will be observed that the *faculties in combination* modify and color this trait. Benevolence and Reason in combination make the philanthropist, while Practicality added assists him in framing wise plans for the elevation of humanity; with Friendship large, he will be enabled to *co-operate* with others in schemes for the relief of the suffering. One who possesses the sympathetic phase of Benevolence, but small reasoning faculties, will work indiscriminately for all who seek sympathy and aid; with large Credenciveness, will be inclined to assist those who approach with a wonderful or romantic tale rather than those who have only a commonplace basis for their demands; with large Conscientiousness, will inquire into the motives of those seeking aid, and, with Practicality added, will like to give only to those who will make a right and worthy use of assistance rendered; with large Love of Young, will seek out and aid unfortunate children and injured or outcast animals.

It is thus shown that this faculty must be read in *conjunction with others* found in combination in order to comprehend the *direction* which it will take in each individual case. After once mastering the basilar principles of physiognomy this can be readily done. Great care must be taken to distinguish the acts of pure Benevolence from those of Friendship, and a close analysis is here necessary to make this discrimination; for, although Friendship prompts to acts of kindness and gives and does for friends, yet Benevolence gives and does for those who are *wholly unknown*, as, for example, in sending means and relief to sufferers by fire and flood; in erecting comfortable homes for the poor, as George Peabody and Lady Burdett-Coutts Bartlett-Coutts have done, and in manifesting lively and practical sympathy for those distressed strangers which chance throws in the way of the benevolent.

Benevolence is the most unselfish trait of the human character, and finds in the animal kingdom its best illustration in the *horse*, which works patiently and uncomplainingly his whole life long for friend or stranger and dies at last in harness, toiling for others who often cruelly hurt and misuse him,—an act which our legislators have justly made a criminal offense. The shape of the horse coincides exactly with the form of the most sympathetic persons, disclosing the long, thin face and well-nourished, large body, thus evidencing the superior action of the glandular system, which scientific physiognomy declares to be the base of supply of this noble faculty. The proof of this glandular origin may be verified by examination of the lower lip of noted misers and of those who are notoriously close-fisted and stingy. They will be found dry, pale, and often thin, and will exhibit one or more of these characteristics. A full, moist, red lower-lip is a sure indication of either sympathy, generosity, or benevolence of some sort. I think I may safely state this to be one of the *infallible* signs of character.

I am often confronted with the question, "Are there not a great many exceptions to these signs,—exceptions which disprove their infallibility?" To this I answer that scientific physiognomy gives ample information in regard to the just interpretation of facial signs. There are many circumstances which *modify* and *influence* the meaning put forth by mere size of a facial sign.

Color, for example, greatly modifies power. A very pale color of the skin, hair, and eyes would be proof positive of less vigor of all the signs of character than where a good red complexion and deep-blue or brown color of eyes and hair were indicated, for *color* gives *power; lack of color, feebleness.* Then, too, as above stated, other faculties in combination modify and influence traits as explained previously.

A good lesson in the difference existing between the facial expressions exhibited by Benevolence and Friendship may be had by contrasting the physiognomies of a number of well-known philanthropists and sympathetic persons with those more remarkable for their friendly and social qualities, for friendship and sociality are synonymous terms. Sociality is the food upon which friendship feeds, and this is hence a more selfish trait than Benevolence. It demands *something in return* for what it gives, viz., companionship, a tribute which Benevolence does not exact, and herein is the most striking proof of their *dissimilar method of action.* It is true, one may be both friendly and benevolent, and many combine a large degree of both traits. In this case we find a truly noble character in the direction of humane and sympathetic conduct. Yet a close analysis of these two traits points to diverse physiological origin and to a separate facial sign for each, and the signification of the position of each of these signs is as remarkable as it is beautiful. The sign for Benevolence is opposite the local sign for Love of the Opposite Sex and Love of Young, and, when we kiss, we kiss with *Benevolence*, *Amativeness*, and *Love of Young* combined; that is to say, these signs being localized in the lips, they meet and respond in the salute of Amativeness, or conjugal love, or of pure, disinterested Benevolence, or pure affection, and also in the paternal and maternal seal of love upon the rosy mouth of infancy and childhood. How wonderfully harmonious is this natural manifestation of the entire range of love and affection! No convention has founded the universal institution of kissing. A power greater than civilized conventions has made the meeting of the lips a spontaneous expression of maternal love, of sex love, and of the love of purest friendship; for here are the proofs of the facial locality of all of the various sorts of love comprised within the human character, and scientific physiognomy points to this natural, impulsive, and spontaneous act performed by the lips as corroborative evidence of the appropriate localizing of these several love-signs about the mouth.

BIBATIVENESS.

Definition.—Love of liquids; capacity for the assimilation of water, soups, gravies, sauces, lemonade, fruit-juices, etc.; natural adaptation to swimming, bathing, sailing, washing, and scrubbing. Mentally, it creates a taste for marine scenery, both natural and pictured; it imparts love of ease, and assists in building up the domestic and social traits.

An *excess* causes obesity, softness of the tissues, indolence of both body and mind, and leads to perversion of the fluid system of the body, which causes dropsy and other disorders.

Perverted, this function creates an overweening fondness for liquid stimulants, and ends in drunkenness and disorders of the kidney system and other organs. Excessive use of liquids produces "fat, sleek-headed men and such as sleep o' nights,"—useless members of society, such as loafers and criminals.

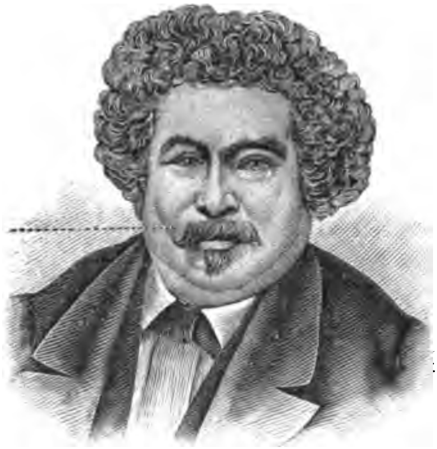

FIG. 28.—ALEXANDRE DUMAS. (NOVELIST AND DRAMATIST.)

Born in France, 1803. Principal facial sign, Bibativeness, shown by fullness of the cheeks about one inch outward from the corners of the mouth, and by soft tissue all over the face and body. The law of the square, curve, and sphere governs this face and body. This gentleman was almost as celebrated for his eating and drinking qualities as for his writings, which were numerous. A great store of vitality enabled him to perform herculean mental labors. His square forehead shows that Order and Thoroughness were his strongest characteristics. The signs for Alimentiveness are most pronounced. Mental Imitation, Human Nature, Constructiveness, Ideality, Friendship, Benevolence, Approbativeness, Self-esteem, Self-will, Form, Size, Locality, Order, Language, and Memory of Events are among his strongest traits.

A *deficiency* of the love of drinking is scarcely ever met with, for this function is primitive, and the use of liquid solvents, in Nature, precedes the formation of even the *dry land*. Man lives in and upon liquids during his prenatal life and almost entirely upon them for one year after birth; hence, the desire for liquids is normal, and nearly all persons demand and use the amount of water or liquid food which their organism requires. If the avoidance of water and liquids is carried to an abnormal extent, very great dryness of the tissues will result, and the physical functions, as well as social qualities soon become impoverished.

Facial and Bodily Signs.—Fullness of the cheeks about one inch outward from the corners of the mouth is the primitive and most pronounced facial sign for Bibativeness. Other signs are: general fullness and softness of all the tissues of the body, with a good degree of soft fat, causing dimples in the hands, cheeks, back, and other parts of the body, as seen in fat infants. The hands will be full, fat, soft, and puffy; the knuckles dimpled, and the fingers thick, soft, and weak. The abdomen is large, soft, and globular. Where a healthful, rosy color accompanies these signs a normal condition of health is present, but when the skin presents a "waxy," ashen, or pallid color, some form of disease of the circulatory system is to be inferred, such as dropsy or other disorders.

Description of Bibativeness.—If we wish to become intelligent as to Nature's methods of procedure, and to understand her orderly progress in regard to the life and mind of man, we must take cognizance of the successive steps in man's unfoldment from the time of his conception to his birth, and thence onward until he arrives at maturity.

From the time the human being is conceived, until the embryo is perfected, it exists in a fluid habitation; it lies floating in a sea of liquid. The human embryo, physiology teaches us, is composed of 90 per cent. of water and only 10 per cent. of mineral matters. Every organ, member, and tissue of the material human being is composed largely of the same material. Says Mr. Lewes:—

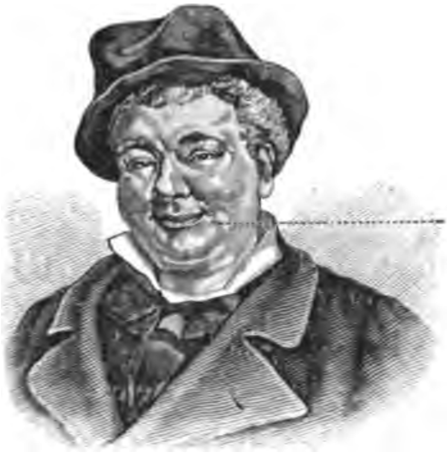

Fig. 29.—MONSIEUR D'AUBRAY. (French Gentleman.)

Principal facial sign, Bibativeness. The law of the curve and sphere governs this face. This gentleman's history is unknown to me, but his face gives a pretty good account of him, and I take him on his facial record. *Bon vivant* is written all over this countenance. To his intimates "he is a jolly good fellow;" can tell and enact a story; loves "wine, women, and song." This face shows original refinement, but a life devoted to social and sensual enjoyments has altered the features for the worse. The signs for Benevolence, Amativeness, Mirthfulness, Alimentiveness, Approbativeness, Music, Friendship, Constructiveness, Human Nature, Analysis, Self-will, Form and Size, and Memory of Events are large. The modifying effect of Modesty was needed by such a combination to restrain its degrading tendency, hence the sign for Modesty is very decided. This character has all the requisites for a first-class comic actor, and may be one.

> Not only is water an essential part of the body, it might be called the most essential, if pre-eminence could be given where all are pre-eminent. In quantity, water has an enormous preponderance over all other constituents. It forms 70 per cent. of its whole weight. There is not a single tissue in the body,—not even that of the bone,—not even the enamel of the teeth,—into the composition of which water does not enter as a necessary ingredient. In some of the tissues, and those the *most active*, it forms the chief ingredient. In the nervous tissues 800 parts out of every 1000 are of water; in the lungs, 830; in the pancreas, 871; in the retina, no less than 927. Commensurate with this anatomical preponderance is the physiological importance of water. It is the carrier of the food, the vehicle of

waste. It holds gases in solution, dissolves solids, helps to give every tissue its physical character, and is the indispensable condition of that ceaseless change of composition and decomposition on which the continuance of life depends.*

The important part which water plays in the human economy is thus shown; add to this the fact that the human infant exists upon fluid food entirely for the first year of its life and mainly for its first three years, and we shall comprehend the importance of the function and faculty of Bibativeness.

The first functional act of man's life is to inhale air; the second is to receive and assimilate liquid food: hence the first most important function is that of breathing; the second next important function, the digestion of fluid food. We have seen formerly that the human embryo is composed mainly of water; also that his first habitat is of a fluid nature; his first food, a liquid containing a large percentage of water. Now, this preponderating influence of a single element in the human system would naturally make its presence known in the face, which is, as I have demonstrated, the *registering dial* of the entire body. Not only would the sign for fluid digestion be well defined in the face, but it would be (by reason of its preponderance in youth) one of the *most conspicuous facial signs in infancy.* Accordingly, we observe in all healthy infants an uncommonly full and puffy appearance about the corners of the mouth, adjoining the signs for Mirthfulness and Digestion.

This sign of Bibativeness decreases as age advances, and the facial sign for solid digestion, or Alimentiveness, becomes more pronounced and apparent. Where the love of liquids is a peculiarly strong trait, this facial record remains throughout life and develops even greater fullness than that observed in infancy. Many persons retain through life the peculiar puffy fullness and dimpled appearance of infancy. Such persons have an uncommon fondness for liquid foods, and, like the infant, show great mirthfulness and taste for fun, games, and amusements. The entire body in this case also retains its *infantile rotundity*, and the abdomen enlarges, the limbs increase in size and softness, the cheeks are greatly puffed, and the chin becomes double and sometimes triple in appearance; or, on the other hand, if this trait is inherited in combination with a well-developed osseous and muscular system, the body will present all these signs in a modified form, and the cheeks and abdomen will be the best indicators of this faculty and function. Of course there are many grades of strength of the bibative function; but the facial and bodily signs will indicate these differences of development, and this function will be influenced and modified by the other systems in combination.

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* Physiology of Common Life, G. H. Lewes, p. 25.

The situation of the principal facial sign of the love of liquids is most suggestive, as it adjoins the mouth,—the principal sign for Alimentiveness,—and is also in the neighborhood of all the signs which denote glandular or fluid action, viz., the signs for Benevolence, Mirthfulness, Hospitality, Love of Young, Amativeness, Friendship, etc. O. S. Fowler has observed this sign in the cheek, and dubs it the facial "pole" for the function of Bibativeness, and states that "its sign is often found in the faces of the descendants of inebriates." All the soft tissues of the face, as well as of the body, exhibit the action of the fluid system in a very marked manner. All of the signs for glandular action are situated mainly about the region of the mouth, and this arrangement is in accordance with the laws of physiological harmony, for, as we have formerly seen that all of the visceral organs of the body that mutually assist each other are grouped in such proximity as to aid each other, so in the face the signs for all the organs which are in close proximity in the body are also grouped together, and thus the physiognomist finds a most wonderful register and record of corroborative signs of function and faculty, and this record is self-revealing by virtue of its situation; and thus *form* and *locality* taken together are evidences of internal physiological operations and of their resultant mental tastes and proclivities.

The fluid system is, as I have shown elsewhere, the most important system of the body; not only of the embryonic and infantile organisms, but of the matured being as well. The system of lacteals and absorbents within the body and the system of sweat-glands and tubes upon the surface, together with the kidneys and bladder, excrete the fluid waste of the body and thus preserve the *functional purity of the entire organism.* The importance of the fluid system of the body cannot be overestimated, for, as we have seen, the body depends upon fluid for its primitive construction, and later it depends upon fluid for the processes of growth and repair. Water is the origin of all vegetable and animal life. The first animal bodies were aquatic. *Man is in his prenatal life an aquatic animal*, semi-aquatic in infancy, and always dependent upon fluids for life and health. In order that his system shall be the most perfect, pure water, like pure air, is most essential. Man can exist and thrive upon a small quantity of very poor food if he have a plentiful supply of pure water and pure air; hence the fluid and gaseous elements of the body are most essential to life, growth, and normal being.

The peculiarities of those in whom Bibativeness is large are similar to the traits which are exhibited by the vegetative individual. When fluid forms a large part of the human organism the emotions predominate, and when the combination includes a fair share of bone and muscle all of the traits arising from these constituents are greatly modified by the presence of the soft tissues. Where the fluid elements of the body are greatly lacking, the tissues are dry and inactive and the mind unsocial and contracted. The physiognomies of many noted misers and recluses show them to be deficient in the fluids of the system; hence their faces are dry, shriveled, and wrinkled, and their habits correspondingly unsocial. A normal supply of fluids in the system gives softness and roundness to the cheeks, the lips, throat, limbs, and body, and freshness, moisture, and elasticity to the skin. Deficiency in the fluids produces opposite appearances and distinct mental effects. Very great lack of the fluids produces serious defects of the mental and social traits and other unbalanced conditions; while, on the other hand, an excess of fluids in the organism induces other abnormal states of body and mind. What should be aimed at is a *balanced* or normal condition. This can be measurably attained by an intelligent use of liquid foods and by exercise or rest as the case requires, bathing, the use or non-use of carbonaceous foods, and other hygienic precautions.

The laws of evolution teach us that the fluid system or primitive kidney-duct was the first system evolved after the intestinal in the primitive animal. It must, hence, be deemed as of great importance; for all primitive functions, such as fluid *digestion*, *excretion* of the *fluid waste*, breathing, etc., are the most essential to animal life; and the tastes and habits derived from these functions in the perfected human being are the strongest and most lasting.

A love for liquids exerts a dominating influence upon us, for, whereas almost every one can deny himself any favorite article of food, not one in thousands can as easily forego a favorite tipple, such as tea, coffee, chocolate, lemonade, soups, sauces, etc.; while all know of the uncontrollable appetite which strong drink produces. We are taught that eating was the original sin; judging from the present dietetic habits and tastes, one could readily believe that *drinking* was the basis of "total depravity."

Every species of food taken into the stomach contains water in varying degrees. The air, too, has its hydrogen or moist element, which is present in a vaporous form, and which assists in giving freshness, moisture, and elasticity to the skin and tissues, and strength to the lungs.

The sense of *thirst*, which is our second most important sensation, is never of a pleasurable nature; while the sense of hunger or appetite is essential to our enjoyment of food. Different degrees of temperature of liquids produce various grades of thirst. Tepid or hot drinks allay thirst much better than very cold water. It is said that "the bodies of those who have perished from thirst show a general dryness of all the tissues, a thickening of the humors, a certain degree of coagulation of the blood, numberless indications of inflammation, and sometimes gangrene of the viscera."*

If the bibative function is normal it will regulate the quantity of fluids which the system requires, but if there is a predisposition to imbibe *more fluid nutriment* than is necessary for the healthful action of the body the disproportion of fluids in the system is soon apparent; the individual becomes corpulent, indolent, disinclined to either mental or manual labor, and if this condition becomes still further perverted disorders of the circulatory system are engendered and life becomes a burden and all usefulness is at an end. When we reflect that nearly three-fourths of the weight of the human body consists of water, we can readily comprehend why an abnormal disproportion in the direction of the fluid elements would produce serious disorders of the kidneys and other organs.

As we have seen to what extent water enters into the human system as a principal constituent, we must hence infer that our water-supply should be ample and as pure as possible; indeed, after air, water is the next most important factor of being.

The reason why tea, coffee, beer, and soup quench the thirst is due to the quantity of water which they contain. Mountain spring-water is undoubtedly the purest water that can be obtained, yet even this should be filtered, and the *water-filter* should be considered the most *important article* of household furniture. No family should be without one. In the water supplied to most large towns and cities there are always more or less impurities which are very detrimental to life and health. And yet, while the majority of housekeepers make the most strenuous efforts to procure good, well-cooked food, the water which forms the larger part of the human body is too often of the most impure quality.

The best solvent for our food is water and fruit and vegetable juices. A host of artificial drinks have been compounded by man, but are all more or less injurious in their effects upon the system. Alcoholic drinks take first rank as the most deadly and destructive; following these, tea and coffee, which induce different forms of nervous, liver, and kidney complaints, and at the same time they have a most decided and disastrous effect upon the mental powers and disposition. I have known cases where the happiness of entire families has been wrecked by the tea and coffee tippling of the parents. This form of tippling produces nervous irritation, irritability of the disposition, sleeplessness, and consequent exhaustion, and, carried to excess, other diseases supervene and lead to insanity and death.

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*The Physiology of Common Life, G. H. Lewes, p. 34.

What is an excessive use of tea? Whenever the exhilaration produced by tea is quite perceptible to the drinker, the use is excessive; for the nervous system will react and become lowered and enfeebled in proportion to the exhilaration produced. Stolid, vegetative persons can drink several cups of tea at a meal without being so stimulated as a nervous or mental person would by drinking one cup. Coffee acts as a poison, and is such to those whose liver or nerves are affected by its action. When coffee induces tremulousness or wakefulness, it is highly deleterious and should be avoided. Tea and coffee are less injurious to those who perform hard, manual labor, especially if they work out of doors. Sedentary persons who live mainly indoors do not have the neutralizing benefit of perspiration and fresh air, hence retain all the deleterious principles of tea and coffee in the system, and are accordingly more injured by their use.

The best drinks are those which are the most simple and natural; lemonade, and fruit-juices pressed from berries, such as currants, raspberries, etc., sweetened and cooled by setting them upon ice in warm weather, are most wholesome and refreshing. In the matter of *quantity* each one should be guided by his own individual needs. In hot climates, where perspiration is engendered freely, or by working in foundries and in the kitchen, a larger supply is required than in cooler places. Excessive indulgence in water or other liquids induces obesity.

Salt in the system, combining with the water, creates chemical activity, which eliminates the uttermost amount of carbonaceous matter from the food, and thus fat is stored away about the large visceral organs and under the skin all over the body, as is seen in infants, who exist entirely upon fluid foods. When this taste is indulged in to excess, it is transmitted to offspring in an intensified form and leaves its sign in the face in a most decided manner. Hereditary love of liquids does not always induce a love for alcoholic stimulants, but is liable to do so if opportunity offers, and social customs influence the character. The offspring of inebriates often carry this facial record of their parents' vice, and thus physiognomy not only discloses one's propensities, but also discloses what vices have cursed the parents.

All signs about the region of the mouth denote in some degree the condition of the fluid circulation. The sign for the kidneys is situated in the chin, and the descendants of inebriates disclose by the smallness and narrowness of the chin the moral degradation which has resulted as a consequence of vitiated physical organs.

A great deal of the condition of the fluid circulation may be known by the color of the complexion and eyes. Very pale or ashen-colored skin indicates an impoverished, anæmic state of the blood; waxy-looking skin, a dropsical condition of the fluid system; while a delicate or fresh and rosy hue of the skin discloses a healthful, normal state of the fluids of the body. Very light eyes announce a weakness of the kidney system, or defective action of the reproductive system, one or both. Physiology teaches us that nine hundred and twenty-seven parts of the retina of the eye is composed of water. Now, if the fluids of the body are greatly in excess of the normal requirements, the eye would also partake of this excess, and by the *weakness of its color* would reveal this deficiency of coloring pigment and strength of the humors of the eye. The eyes of Albinos are proof of this theory, and *very* light-eyed people do not possess the same degree of visual power as do those who exhibit a normal supply of coloring pigment in the eyes.

The primitive animals were aquatic; later, they evolved an amphibious nature, and still later took up their abode entirely upon land. Among men we find representatives of these several classes of animals. The natives of the islands of the Pacific Ocean almost live in the water, and from their infancy are accustomed to pass a great share of their lives in and upon the water. Among civilized races, we observe every variety of the bibative individual. We see those who are built like the hippopotamus, and who possess many of its characteristics. This class of people are semi-aquatic in nature, and live mainly upon liquid foods and love bathing and swimming. Like the hippopotamus, they are always looking for food, and are indolent and mild except when enraged, and then are terrible in their exhibitions of wrath.

All persons with the sign for Bibativeness large are very fond of bathing, swimming, and all aquatic exercises. Women with this sign large like scrubbing and washing and any pursuits which require the use of water. Natural bathers are known by fullness of the lower cheek, together with a healthy color of the complexion. Thin or hollow-cheeked persons do not exhibit a taste for bathing, and if they are pale as well as hollow-cheeked should never indulge in full baths, but make use of the sponge-bath quickly applied, as their circulatory power is comparatively feeble and a full bath would take so much of the natural heat of the body as to prevent in many subjects a healthy reaction.

Water is thus shown to be indispensable to every stage of life. It also enters more largely into primitive life and infantile conditions; hence it is that those human organisms which possess a disproportionate quantity of water or fluid are relatively more immature or childlike in their mentality than those who possess a normal quantity. The differences observed between a vegetative adult and a bony or muscular one will afford a good illustration of the influence which water has upon the human body and mind.

ALIMENTIVENESS, DIGESTION.

Definition.—Hunger, love of eating, large digestive capacity, healthy and normal assimilation of solid and liquid foods. Epicureanism is a refined phase of this faculty and function. Gluttony and gormandizing are perverted states of this faculty.

An *excess* of the love of eating and drinking leads to gluttony, gross size, dullness of intellect, and numerous diseases, among which are apoplexy, indigestion, dropsical conditions, inflammations, and rheumatism.

A *defective digestive capacity* causes lack of bodily and mental vigor, nervousness, consumption, dyspepsia, and numerous other ills. Defective digestion is indicated by a narrow mouth, thin cheeks; thin, pale, and dry lips; a shrunken appearance of the parotid gland; colorless or pallid complexion; long, high, and thin nose, or a nose flat at the middle portion; long, slim neck; narrow shoulders, flat abdomen; long, thin, or transparent hands, fingers, and ears; feeble, hesitating gait.

Facial and Bodily Signs.—A wide mouth; full, red, and moist lips; full, red cheeks, with a plentiful supply of the soft tissues about the chin, are the primary facial signs of good digestive capacity; also, fullness of the parotid gland just in front of the ear-opening. The bodily signs are shown by a well-nourished body, full abdomen, full breast; short, thick, wrinkled neck, and plenty of soft tissue over all parts of the body; hands and fingers well supplied with flesh. Gluttony in some pushes the eyeball up and forward, leaving a good portion of the "white" of the eye exposed below the retina; where this appearance is noted, it is accompanied invariably by intense periodical headaches, owing to an inordinate or uncontrolled appetite.

Description of Alimentiveness.—The majority of people understand that the fullness of the lower part of the cheeks denotes good digestive powers, but, with a singular lack of logic, fail to reason that if Nature has placed the sign of *one* function or faculty in the face there may be *others* there also, and hence look no farther for signs for the liver, the lungs, the kidneys, the heart, the muscles, etc.

In infancy the diet is entirely of a liquid nature, hence we should naturally infer that the signs for infantile digestion would be different from those exhibited by adults. This reasoning is correct, for infants while in the liquid stage exhibit the sign for digestion by a peculiar fullness of the cheek about half an inch backward from the corners of the mouth, externally to and on a line with the mouth. Observation of any well-nourished infant will locate this cushion-like protuberance. After the infant exchanges its fluid diet for a more solid one this cushion of soft, dimpled fat disappears and the fullness moves farther back to the outer sides of the lower part of the cheeks, unless there is an uncommon love of liquids, such as soups, milk, lemonade, soda, gravies, sauces, etc.; in this case the fullness of infancy is retained to adult life, and is one of Nature's unfailing facial hieroglyphs which denotes love of liquid foods. This fullness is not due to muscular development, for in infancy the muscles have not been used for mastication, but is due solely to *glandular* development, which is a vegetative process purely and operated with but trifling muscular action. The juices created by the imbibition of liquid foods assist in building up the cheeks to sometimes an enormous fullness, which present a globular appearance, and in this stage of nutrition the infant or adult looks like a puff-ball and exhibits *globular forms* all over the soft parts of the body. Veteran beer-drinkers often present this formation of face and body, which proves that this function derives its support from a liquid or vegetative base.

The width of the nostrils, as well as the height and width of the nose at this junction with the forehead, is one excellent indication of one part of the process of digestion, for this formation shows that the sense of *scent* is powerfully developed, and the capacity for scenting flavors, odors, etc., bears direct relationship to the function of digestion. The olfactory ganglia are located here, and if the external nose were removed the sense of scent, of smell, would still remain in a great degree. A long, slim nose is not as active in distinguishing odors as a broad nose; neither are persons possessing this formation characterized by as great a love for food as those with a very broad nose, for the sign for the stomach is situated at the bridge of the nose and its strength is indicated by *width* at this place. A remarkable illustration and verification of this principle may be observed in the animal kingdom. Compare, for example, the facial peculiarities and structure of the lion and greyhound. The lion has a wide mouth, broad nostrils, and a nose broad its *entire length*; it is also wide between the eyes where the olfactory ganglia are situated; while the greyhound is just the reverse in structure, in digestive power, and capacity for scenting. Of this peculiar deficiency of this species of dog, we are told by natural history that "the narrow head and sharp nose of the greyhound, useful as they are for aiding the progress of the animal by removing every impediment to its passage through the atmosphere, yet deprive it of a most valuable faculty,—that of chasing by scent. The muzzle is so narrow in proportion to its length that the nasal nerves have no room for proper development, and hence the animal is very deficient in its power of scent."* In striking contrast to the greyhound are the bull-dog and the bloodhound, the pointer, retriever, and reindeer, which are as conspicuous for their keenness of scent as they are for the width of the nose and nostrils.

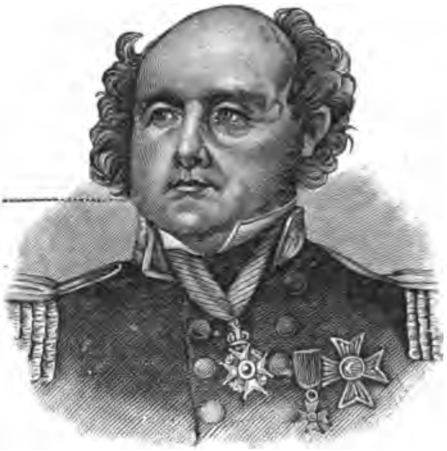

FIG. 30.—SIR JOHN FRANKLIN. (NAVAL OFFICER, NAVIGATOR, AND ARCTIC DISCOVERER.)

Born in England, 1796. Principal facial sign, Alimentiveness, shown by wide mouth, full cheeks, full and moist lips. The law governing this face is the straight line, curve, and sphere. The immense vital powers of Sir John Franklin enabled him to perform herculean mental labors and endure all the rigors of the Arctic climate. In his face are the signs of Firmness, Conscientiousness, Patriotism, Amativeness, Love of Home and of the Young; Benevolence, Modesty, Mirthfulness, Economy, Friendship, Approbativeness, and Sanativeness very large. The mental signs for Caution, Analysis, Sublimity, Human Nature, Constructiveness, Acquisitiveness, Veneration, Executiveness, Self-will, Locality, Order, Language, and Reason are of the first order, and the student of physiognomy will have a fine field for the study of grand character in this resolute, capable countenance.

The function of digestion amply illustrates the theory of the association of physical function with mental faculty. Alimentiveness is the mental aspect of the love, taste, and desire for food, while digestion is the physical aspect of this bodily function. Large digestive capacity is always attended with great love of eating. It depends upon the *inherited quality* of the individual, whether the taste for food shall be a coarse or a fine one. A fine-grained person, exhibiting large digestive powers, would naturally incline to epicureanism, while one of coarse quality would care more for quantity—more for a gross plenty—than for fine quality of food and drink; he would be apt to express himself as did a veteran toper, who, when chided for going into low groggeries for his liquor, replied, "I know there's a difference in whisky, but its *all* good." Those with small digestive capacity care too little for food, and are usually poor judges of flavors, odors, etc.; they make poor caterers, and I have known some mothers so deficient in Alimentiveness as to be unable to provide properly for the wants of their children in this direction. This class of persons should never keep a boarding-house or hotel, for they would be most unsatisfactory hosts.

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* Wood's New Illustrated Natural History, Rev. J. G. Wood, p. 51.

The mouth being the entrance to that chemical laboratory, the stomach, large size of this feature with full lips would naturally disclose great appetite and power for digestion. As the large size of the nostrils indicates the size of the lungs, so large size of the mouth tells us that the entire digestive apparatus is on a corresponding scale. Fullness of the lower part of the cheek, particularly, is an unfailing sign of digestive power, for if the food assimilate with the juices of the stomach, pancreas, and liver, the lower part of the cheek will indicate this condition. Large development of the parotid gland just in front of the ears is another proof of assimilative power. When this gland is well developed, a soft cushion-like protuberance will be observed directly in front of and below the opening of the ear. It is usually large in outdoor laborers, seamen, farmers, and all who eat heartily and digest well. It is small and weak in those who are deficient in digestive power and are poor feeders. Eating and absorbing solids and liquids was the first or primitive function; from this starting-point all the functions and faculties have developed by differentiation and evolution. The mouth is not only the register of the function of digestion, but it is also the principal organ of speech, and is therefore by its size and shape indicative both of the quantity, volume, and quality of language. Its size and form, color and texture combined, indicate the grade

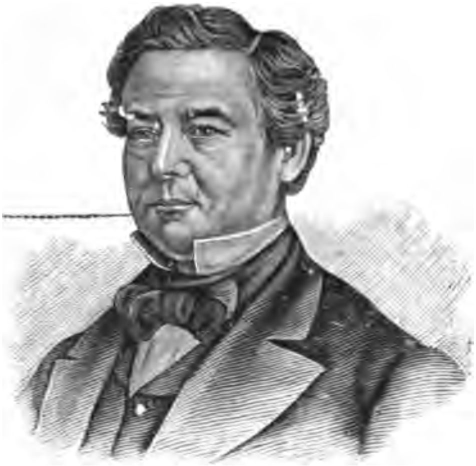

FIG. 31.—A. A. LOW. (DISTINGUISHED MERCHANT.)

Born in Massachusetts, 1811. Conspicuous facial sign, Alimentiveness. The law of the straight line, curve, and sphere governs this physiognomy. This subject was formerly president of the New York Chamber of Commerce and has exhibited administrative ability of a high order. In his countenance one sees the signs for Alimentiveness, Hospitality, Friendship, Approbativeness, Self-esteem, Conscientiousness, Love of Home, of Country, and of Young all very pronounced. His mental powers are shown by the signs for Veneration, Executiveness, Self-will, Order, Form, Size, Memory of Events, and Reason.

of development or refinement of character, not only of the social and domestic traits of which it is primarily representative, but it is decisive of the *general grade* of the refinement of the individual in his entirety. This fact is patent to all good observers.

The mouth does not denote the *mental faculties* in so precise a manner as the nose, yet it does by its size, form, color, etc., give the general tone or grade of the individual; most especially while in motion the play of the muscles will serve to reveal more of the character than when in repose; yet both must be taken together. The good examiner will cause the subject to converse, smile, and laugh, in order to get as many expressions of the mouth and its adjacent parts as possible, for *all movements* are significant; nothing is too small to be valueless. I have made quite a different estimate of character after observing the play of the muscles of the mouth than I had previously formed.

The mouth is furnished with an exceedingly muscular tongue and numerous glands which secrete and excrete a variety of juices, which, mingling with the food, assist the process of digestion.

The use of the mouth as an active agent in digestion will not be fully understood unless the reader makes himself thoroughly acquainted with the mechanism and anatomy of the mouth; then the eating and speaking capacities of this feature will be understood and its full importance as a revelator of character comprehended. In writing upon physiognomy it seems necessary that the physiology and anatomy of every feature should be described, along with the exterior and mental descriptions, but the limits of my work render this impossible, and I can only recommend the student to make use of a good work on these subjects, in connection with this one, otherwise he will have only a surface knowledge of character, for mentality is a question of physiology, and impossible to be comprehended without a fair understanding of its laws.

Appetite is the normal expression of this function, yet, as the stomach is often perverted by excesses or improper food, it cannot be always relied upon as a guide. Reason and observation must come in to assist the appetite in its demands, and only such foods as experience has demonstrated as nutritious should be partaken of. No function is more abused than the function of digestion. Most people *eat entirely too much*, and this leads to many and serious disorders.

Each individual stomach is so entirely different from every other, that no one in particular is a guide for any other; for the articles of food which nourish some act as poisons upon other systems. In this regard, each must be a "law unto himself." Many persons have a decided liking for certain articles of diet which seriously disagree with them, and this furnishes the best proof of the statement that observation, reason, and self-control should be the guide of appetite. Mothers should always supervise the diet of their children and compel them to refrain from eating things unsuited to them, or at improper hours, and in immoderate quantities.

Nature has brought forth many youthful geniuses in music, art, and mathematics,—children, who, like Mozart, could compose music at four years of age; orators at ten, like Harry Shannon; mathematicians at three, like George Bidder; but Nature has never yet produced a child with a genius for selecting proper food for itself, nor a genius for bringing itself up properly. Think of this, mothers, when you are inclined to allow your children to select dainties and leave the substantials untouched, because they say they "can't relish them," and "soft-headed" mothers believe this, and keep up the supply of cake, pie, sweetmeats, etc., until Nature puts a stop to it by disease or death.

I have seen many children who have hoodwinked their parents in this manner for years, yet when taken to where there were no dainties to be had ate as heartily as other children. Such children should be compelled to eat wholesome food by withholding sweets, etc., from the table, and very soon a normal appetite would be discovered. Yet mothers should study children's peculiarities with a view of providing suitable foods; for black-eyed children cannot always relish the same foods which blue-eyed children desire. Dark-eyed, bilious persons often find milk wholly indigestible. Sweets, also, are not so suitable for them as for the lighter colored. The reason for this lies in the fact that the liver is not usually so active in dark people as in the light skinned. The heart is relatively stronger than the liver in the former, and this accounts for many seeming inconsistencies and idiosyncrasies in diet. Certain diseases affect different-colored persons in different manner. So well is this understood by one school of medicine, at least, the "Homœopathic," that it gives different medicines for the same disease to those of diverse color of complexion and eyes; and this accords with the teachings of scientific physiognomy, for physiology is at the base of the science, and nothing, however minute, is regarded as unimportant in this study. The most minute differences are not unimportant but highly significant, and explain all sorts of dissimilar characteristics. This diversity extends not only to the question of food, sleep, etc., but must be observed in the manner of instructing children of dissimilar colors; for children who are light, with bright red-colored complexion, made so by large lung development, learn everything "on the wing," as it were, and can never be made to plod like the darker-skinned children, who are more capable of enduring continuous, monotonous habits; for where the lungs predominate over the heart unceasing activity is the law of being. Physiognomy comes with all these new ideas to mothers and teachers to bless their labors by giving them an intelligent method of instructing and interesting youth, based upon law and science. It is as palpably absurd to compel children of the most diverse conditions of body to feed alike, as it would be a palpable violation of good taste to compel all children of both dark and light complexions to wear precisely the same colors, for every one possessed of taste knows that bright, vivid, rich colors harmonize best with the brunette complexion and dark eyes, and that light blue and white look best upon blonde or fair persons. There are laws regulating the fitness of food as there are laws regulating the appropriateness of colors. It should be the duty of every one to seek out for himself the law of his stomach and digestive apparatus, and then make a serious and *religious effort to abide by it.* If religious principle is required more in one direction than in another, it is in reference to habits of eating and in the propagation of the race. We are taught in the Bible that eating was the first or primal sin. It is plain to be seen that all of Eve's descendants have received through the laws of heredity this propensity in an aggravated and intensified form. The sin of overeating is universal and as prevalent among the most religious and civilized races as it is among the uncivilized heathen. Hygienic law in eating should be observed,—not individual preference, nor will; nor perverted, vitiated appetites and passions; but *law sanctified by reason, self-control, self-denial, and moral principle.* For this reason God has placed Conscientiousness among the domestic faculties, where it is most needed to check and rule them. He did not wait until He had built the whole edifice of man and then put conscience on top like a steeple on a church. Evolution teaches us that Conscientiousness—that is to say, speaking physiologically, the fluid or kidney system—was created soon after the primitive function of Digestion appeared. Its appearance at this time in the creation of functions shows its *importance* to the system, for it was evolved long before the heart, the liver, the lungs, the blood-vessel system, or even before the sexual system appeared; hence its high significance and value to all the rest of the bodily functions and mental faculties. Religion and Conscientiousness are not subjects for church worship alone, but should be incorporated into our daily life, into our habits of eating, drinking, sleeping, rest, exercise, labor, and, above all, their highest principles should be applied to the generating of better bodies and minds. Until these principles are thus applied, no one can be said to be truly religious or moral.

AMATIVENESS.

Definition.—Love of the opposite sex, procreative energy, physical passion, conjugality, manliness and womanliness, sexual perfection, energetic individuality, fecundity, base of mentality.

An *excess* of Amativeness tends to immodesty, unchastity, and to unbridled licentiousness, lust, prostitution, obscene language, and slight regard for sexual ethics.

Deficient Amativeness makes the character narrow, unsocial, and unlovable, with no power to attract the opposite sex. It also shows lack of creative ability in art, etc. Those deficient in love of the opposite sex are wanting in magnetism, and often exhibit a morbid, shrewish, suspicious manner, and angularity of body. Hermits and misers are usually very much lacking in this faculty and function.

Facial and Bodily Signs.—Fullness, redness, and moisture of the centre of the upper lip; large, convex eyes; rounding, muscular body; round limbs, and muscular hands and fingers. The full lip by its size, color, and moisture indicates vigor and development of the reproductive system, and is a primary sign. The eyes by their size disclose the *degree* of the *sentiment* of love of the opposite sex, while their shape and position show the *kind* of love present. Small mouths and a thin upper lip denote very little Amativeness; very small, sunken eyes also show a relative deficiency of this faculty and associated function. Muscular persons and races are more prolific than those who are bony or angular, and exhibit a more demonstrative sentimental and affectionate disposition. A face which exhibits a small, narrow mouth, with thin lips and narrowness between the eyes, is indicative of narrowness of the pelvis, with weakness of the uterine glands; and this formation of the body is unsuited to successful parturition.

Rounding out of the lower part of the back of the head discloses Amativeness by virtue of its being one of the signs of the *dominance* of the *muscular* system, which rounds and curves every part of the body. All muscular persons and animals exhibit this formation. This is, however, a secondary sign. Phrenology gives it a cerebral and primary one, although rounding of the body and limbs are also bodily signs of Amativeness and procreative energy.

Description of Amativeness.—Love and hunger are the two most important of human functions and faculties. Nutrition and reproduction stand in direct relationship to each other. The strife for a living—the means of subsistence—and the desire for love are the two most powerful motives which prompt man to action. It is fair to conclude that the signs for these most important functions and sentiments would be correspondingly apparent in the face, and easily described.

The principal signs in the face of these two primitive functions and sentiments are situated in and about the mouth. Large mouths, with well-developed lips, together with good width between the eyes, disclose in the female the best construction for child-bearing, for width of the bony structure between the eyes not only reveals the width of the brain structure through its *median* portion, but also shows width of the median portion of the *pelvis*, and this is the best formation for easy parturition. Women with very small mouths and thin lips, and those whose eyes are set close to the nose with little space between, are not so well formed for child-bearing as those exhibiting the reverse of this formation. This is a most useful lesson in comparative anatomy for physicians; yet no medical work extant gives this knowledge of the facial signs of reproductive power. A good physician as well as a skillful physiognomist should be able to describe by observation of the face alone the shape and power of all the internal organs; and this is one of the most important uses of this system of scientific and practical physiognomy.

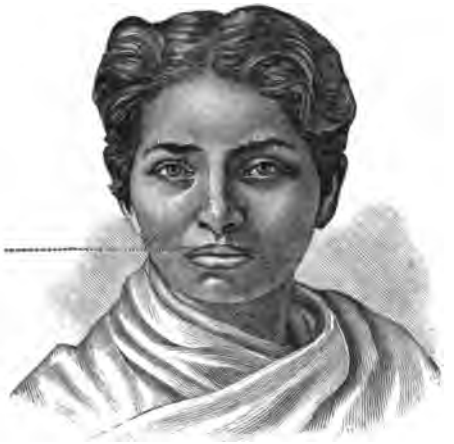

FIG. 32.—THE PUNDITA RAMABAI. (A HIGH-CASTE HINDOO LADY; A TRAVELER, WRITER, ORATOR, AND PHILANTHROPIST.)

Principal facial sign, Amativeness, shown by fullness, redness, and moisture of the centre of the upper lip. The law of the straight line and curve governs this face. This gifted lady owes much of her personal magnetism, executive force, and oratorical and literary originality to the fine and high development of the faculty and function of Amativeness. She is a most womanly woman; full of mirth, wit, fine sarcasm, and quaint originality. Her brain is too active for her slender body. Her face exhibits the signs for Conscientiousness, Love of Young, of Home, and of Country, Benevolence, Friendship, Approbativeness, Modesty, Mirthfulness; also the signs of Analysis, Human Nature, Mental Imitation, Constructiveness, Veneration and Sublimity, strong Self-will, large Form, Size, Mental Order, Color, Memory of Events, Calculation, and Reason. She has gone on a mission to India to educate and save from degradation the child-widows, who are considered by their race as outcasts because they have been so unfortunate as to lose their husbands,—an instance of religious bigotry rarely excelled.

Amativeness is manifested in different individuals in different ways, but the form, size, and color of the parts of the face involved in the production of these signs will reveal *how* each individual loves. If the centre of the upper lip be very full, very red, and with a moist or fresh appearance, a great deal of the physical phase of love will be present, and, unless accompanied with a good degree of Conscientiousness, an improper use is liable to be made of this function, and the individual will have very lax notions of sexual morality and personal purity. He will need all the restraining influences of moral and religious instruction to prevent him from becoming wanton and libertine in character.

The same degree of development, with Conscience and Friendship combined, gives to the character true conjugal feeling and principle, and, with Love of Young added, it gives large parental love, and those with this combination make good marital companions and parents. An upper lip, thin, white, and dry at its centre, shows an almost utter lack of Amativeness, and consequent deficiency in conjugal and parental sentiments, and their associated physical development. Such persons should never marry, for they would make unsatisfactory companions unless they mated with one similar in character. This would be injudicious, for the offspring resulting from such union (should there chance to be any) would probably show still greater deficiency in this direction, and would really constitute a morbid variety of the human species which would not be worth perpetuating.

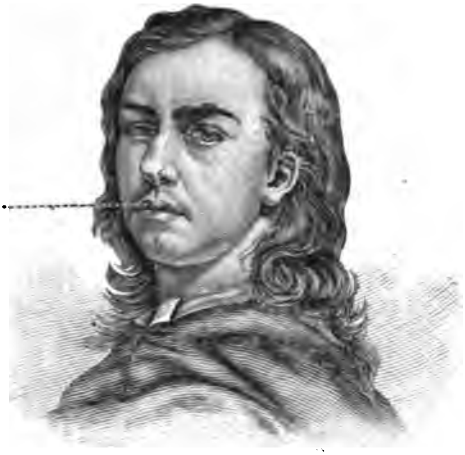

FIG. 33.—ANTHONY RAPHAEL MENGS. (CELEBRATED GERMAN PAINTER AND WRITER.)

Born in Bohemia, 1728. Principal facial sign, Amativeness, shown by fullness, redness, and moisture of the centre of the upper lip. The law of the straight line and curve governs this face. The quality is fine. This great creative artist doubtless derived much of his originality from the amative faculty and function. The dimpled chin is yet another proof of the love of the beautiful in the opposite sex and of artistic taste as well. The nose is broad in the back the *entire length*. The curved jaw shows dramatic instincts. The signs for Amativeness, Love of Young, Benevolence, Love of Home and of Country form a fine substratum of domestic character. Modesty is quite defined and tones down the manifestation of Self-esteem and Amativeness. Mental Imitation, Analysis, Ideality, Sublimity, Human Nature, Hope, Constructiveness, Veneration, and Self-will are very large in this nose. Form, Size, Color, Calculation, Language, and Locality are also well defined. In this physiognomy are seen all the elements of a great artist and critic.

The *eyes* disclose more of the *sentimental* or emotional phase of Amativeness, while the mouth reveals the condition of the physical phase of the reproductive system, which is the base and origin of the sentiment of love of the opposite sex, and in these signs in the face we have still more convincing evidence of the truth of my theory of the relation of physical function with mental faculty. Prof. A. E. Willis,* in his treatise on physiognomy, shows that the "monogamic" principle, or love for *one only*, is disclosed by the round eye, shaped like that of the dove, which is noted for strong conjugal attachment; while the "wanton eye" is indicated by an *almond* shaped commissure or opening between the eyelids. My own observations confirm his discoveries in this respect. The round eye indicates a strong desire for a permanent attachment, and if this is dissolved by death or otherwise great and lasting sorrow will be manifested, so much so as to often lead to a celibate life thereafter. The "wanton" or "polygamic" eye indicates the presence of a love for promiscuous attachments in some, while in others (where the inherited quality is fine) Amativeness will exhibit itself by *one faithful* attachment for the time; but if death or other causes lead to a separation the individual will be quite able to console himself with another marital companion, and exhibit faithful connubial attachment; yet, if separated permanently, can become equally attached to another companion. The almond form of eye is almost universally observed in the Mongolian races, and as they exhibit a low, inherited quality, promiscuity in their attachments and polygamy in their marriage relations is quite general among them.

The terms "wanton eye" and "monogamic eye" do not adequately express the entire significance of the scope and range of the motives and principles of sex-love accompanying each of these forms. I prefer to name the latter "conjugal" and the former "promiscuous" for want of more precise language. The Turks and Arabs and other Oriental races present the peculiar almond form of eye, and are polygamic in their marriages and promiscuous in their attachments. The several races of animals which exhibit these two different formations of the eye are also characterized by the same peculiarities of Amativeness. It will be noted that most of the bird tribes have very round eye-openings, and in these the monogamic or. *mating* principle is dominant. Many animals who live in the monogamic relation with their mates possess similarly-shaped eyes, as, for example, the roebuck among the deer tribes and the lion among the carnivora. Those animals that exhibit an almond-shaped opening of the eye, or those whose commissures are greater in width than they are vertically, are polygamic in their unions and do not mate with *one* of the opposite sex for life, as do the lion and roebuck. The hog, the wild boar, the dog, the cat, every species of serpent, all of the ape tribes, and all those whose eyes exhibit the almond-shaped opening are promiscuous in their attachments. The same general principles of form prevail in the animal kingdom, as well as in the human, and reveal precisely similar characteristics.

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*A Treatise on Human Nature and Physiognomy, Prof. A. E. Willis, p. 44. Chicago, 1882.

The sentiment of Amativeness, or love of the opposite sex, does not make itself apparent until the age of puberty, when its physical base, the reproductive system, becomes functionally active. This produces startling and important changes in all of the mental faculties and stimulates the character to greater achievement in every direction in both sexes. *It is equivalent to the introduction of a new function and mental faculty* into the system. It is more than this, even, for its development has, as stated, a most remarkable influence upon the *entire* mental and moral life. Knowledge of the laws of sexual purity should be imparted by parents to their children at this great crisis of their lives. Lack of such instruction has been the ruin of thousands of promising girls and boys, and lack of knowledge of sexual ethics in marriage has led thousands of husbands and wives to misery, suffering, and anguish unspeakable, and has peopled the world with numbers of defectively organized children, inharmonious in their nature because generated in defiance of all physiological law,—true children of lust and ignorance, what can be expected of them but crime and misfortune? I believe that the present existing prurient and shamefaced ideas in regard to the relations of the sexes springs from the long-continued abuse and misuse of the generative function, *both in marriage and out of it*, for abuse brings shame, consciously or unconsciously. The wide-spread ignorance on these subjects is deplorable, and all persons intending marriage should procure works on physiology and hygiene, and study and prepare for that holy relation. A man would not think of entering a counting-house or bank to keep books without making a study of mathematics, yet will enter matrimony as unconcernedly as a child enters a game, without any special instruction or preparation for the most important step which a human being is capable of taking.

Training in sexual morality should not be put off until about entering the marriage relation, but girls and boys should at the age of puberty be instructed in the most solemn and thorough manner as to the nature and meaning of their newly-acquired function,—the most important one after digestion. They should be trained in the knowledge of sexual physiology and sexual purity. Place in the hands of girls Mrs. Sheperd's work entitled "For Girls;"* also Dr. Alice B. Stockham's work on "Tokology," or "birth science;"† and give to boys Dr. Naphey's work, and to both sexes Dr. Guernsey's "Plain Talks on Avoided Subjects" and the entire series of "White Cross Tracts," issued under the sanction of the Bishop of Durham, and distributed by the Moral Education Society of Washington, D. C. The following declaration of principles put forth by the White Cross Society is worthy the attention of parents, and where young men take this pledge and live up to it they can influence hundreds of their associates in the paths of virtue and morality. The following is the obligation which is offered to youth, and parents reading this should esteem it a privilege to have so explicit an exposition of moral purity with which to protect their sons:—

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* **For Girls, A Special Physiology. For sale by the Moral Education Society of Washington.**

† **For sale at same place.**

> I pledge myself, 1st. To treat all women with respect and endeavor to protect them from wrong and degradation. 2d. To endeavor to put down all indecent language and coarse jests. 3d. To maintain the law of purity as equally binding upon men and women. 4th. To endeavor to spread these principles among my companions and help my younger brothers. 5th. To use every possible means to fulfill the command " Keep *thyself pure.*"

This obligation shows the tenor of the series of tracts which *every mother* should place in the hands of her sons, and esteem it a privilege to be able to give such instruction on subjects which the pulpit, the school, and the newspapers have persistently ignored. Unless instruction in sexual ethics is imparted to our youth we may surely look for their degradation and early decay resulting from ignorance of the true nature of the wonderful and all-pervading faculty and function of Amativeness.

We must not ignore the fact that the sexual feeling has most intimate relations with our moral sense and nature; so, also, is it directly related to the evolution of mental power, as stated elsewhere. All great artists, poets, painters, musicians, inventors, and people of talent and power manifest a strong and decided manhood and womanhood. The sign of Amativeness is most prominent in the lip and eyes of all these classes of persons, and the artistic class particularly show in the rounding contour of the limbs, the head, the face, and body that the creative power is based upon the *procreative function.*

I do not wish to be understood as stating that the sign for Amativeness *alone*, without other mental signs in combination, indicates creative ability; what I wish to convey is the fact that the presence of a well-developed sexuality assists and stimulates all mental efforts whatsoever; and certainly in making a man more vigorous it must impart power for moral restraint, and for the enjoyment of all the poetry, romance, and sentiment inseparably associated with the loves of the sexes. So instrumental is Amativeness in the production of the moral feeling that physicians (who have made the investigation of human character a study in connection with health and disease) observe these facts. Dr. Maudsley observes that "when an individual is sexually mutilated at an early age he is emasculated morally as well as physically," and all evidence goes to prove the low, immoral, lying, thievish propensities of eunuchs. A man strong in his manhood would, if rightly instructed in sound ethics, use his great powers of will and intellect to combat immorality instead of using them for immoral purposes.

Parents should not leave these subjects to the uncertain, degrading, and ignorant instruction of the stable, the saloon, and street-corners; nor leave their girls to pick up vulgar and low ideas on the sexual questions from ignorant servants. They should procure some of Mrs. Lucinda B. Chandler's tracts for mothers, and thus inform themselves how to approach their children in a pure, delicate, and scientific manner, with knowledge which *will grow up with them* and thus *forestall* with truth and purity any low or degrading ideas which may come to them from ignorant, doubtful, or impure sources. "Knowledge is power" should be written over the hearthstone of every home. Ignorance is weakness, death, and degradation. Conjugal love, the most beautiful and inspiring of all human feelings, depends upon the understanding of the nature of *individual rights and duties*, and in according *personal rights* in marriage.

Parentage, right generation, and sexual ethics are all *divine* studies, and should be so understood and their principles applied by all husbands and wives desiring to live in harmony and to propagate superior offspring. No other systems of instruction will teach these important truths. *Science alone*, combined with morality, will give the key to these divine laws.

The conjugal feeling, or love for *one only*, and constancy and fidelity in love and marriage are part and parcel of the faculty of Amativeness, for Amativeness leads out in many directions, as elsewhere shown; it assists creative art, and in its own nature and essence demands and gives fidelity while it lasts. Yet other faculties contribute to make one faithful or unfaithful in love. Where Conscientiousness is large, in combination with full degree of Amativeness, constancy and devotion to the one beloved or to husband or wife will be most marked. Where Conscientiousness and Firmness are small, constancy in love, or indeed in any matter, will be almost entirely wanting. Moderate Amativeness, with large Friendship, together with a fair degree of Conscientiousness and Firmness, make a zealous and devoted conjugal companion. Such a character would defend the interests and honor of his or her companion with great ardor, and remain faithful through all vicissitudes of health and fortune.

Some men and women have a *talent* for marriage, and are thus enabled to make home a place of great happiness, while others marry who are possessed of so little Amativeness and true conjugal feeling as to cause great unhappiness in their companion. This class should refrain from entering the marriage relation, for they are wholly unable to understand and offer the tender attentions and courtesies which *nourish* and *sustain the conjugal relation.* Conjugality can be cultivated by suitable treatment, just as all traits are developed. Both husband and wife should seek to make *their union* the most perfect one in respect to unity and harmony, for this not only makes a heaven for them, but conduces directly to the propagation of harmonious children. I am often able to tell by the expression of the face whether one was conceived and gestated in harmony, discord, or indifference, and certainly what becomes a permanent expression of the physiognomy must have an abiding influence upon one's entire character and life.

The phrenological idea that the signs for Amativeness are discovered in the chin, by its length forward, is most erroneous. The signs for love, as for all the softer domestic traits, are *not found in bone development*, but in the *glands* and *muscles*, their bases of supply. Love is manifested, both physically and mentally, by these two systems, and love-signs are found in the face and body in the development of muscle and soft tissue. *We do not love with our bones.* It is true that Firmness, which is denoted by length of the bony structure of the chin, creates *fidelity* and continuity of the sentiment of love, but I deny most emphatically that the signs for Amativeness or of any of the affections can be disclosed by bone development. Bone is for the manifestation of the sterner and more enduring traits. Emotions of all sorts are manifested by nervous ganglia, muscles, and glands; and all of the emotions, like love, hope, joy, grief, laughter, force, revenge, and secretiveness, call upon these sources for the ability to *express* their power and action. This cannot be controverted. The glands, ganglia, and muscles are the agencies most concerned in the expression of the emotion of love, as well as in the perpetuation of the race; hence it is obvious that we must look for love-signs in those parts of the face and body which best exhibit the development of these tissues. We must examine their condition as to size, form, color, and moisture, and discover by the degree of softness, moisture, flexibility, and *quality* their present condition of activity or inactivity.

In all muscular races of men and animals, the form produced by the *curving* nature of muscle announces capacity for the emotions of love, also capacity for reproduction. Where the glands are active in combination with a fine development of the muscular system, there is present the best combination for both Amativeness and fecundity. The action of the glands gives brightness and moisture, softness, redness, and flexibility to the lips and eyes, and herein are additional proofs of the presence of sex-love, or Amativeness.

Where love-signs are found in the chin, it is when the *muscles there* have created a dimple or cleft. A dimpled chin is the sign for the appreciation of the beautiful in the opposite sex, and hence it is found in the chins of hundreds of poets, painters, actors, dramatists, writers of fiction, and all classes of persons whose art leads them to be influenced by and who depict the beauties of mind and person in their creative efforts. Love of the beautiful of the opposite sex seems to assist creative effort, in conjunction with Amativeness. Where the chin is dimpled the muscular system is usually either the dominant system, or one of the dominant systems; where the muscular and the brain systems are regnant and of fine quality ability for creative efforts of some sort will be manifested; and where the chin is dimpled the muscular system is so decided as to warrant us in saying that Amativeness, Constructiveness, and Imagination are also present. So unerring and infallible are Physiognomy and Comparative Anatomy, that from the presence of a dimple in the chin one can safely predicate the presence of many other faculties and functions in other parts of the organism. A dimpled chin, according to Lavater, reveals a benevolent, generous disposition. This is also one of the indications of this feature.

We must always look for signs of love in muscular and glandular formations, for the *most muscular* are the *most amative* and the *most prolific.* It is the same in the animal kingdom. The most bony races, both of men and animals, are the least amative and prolific. The idea of looking to any portion of the *bony* structure for tokens of Amativeness is to me supremely absurd. Many famous and infamous libertines, Aaron Burr, for example, disclose a long, projecting chin; but close scrutiny will show that this feature in his face is *rounded* out, which proves precisely my position in regard to the muscles being expressive of love-signs, for his chin was *rounded* by the development of *round* muscles, not by square bones. Now, round muscles belong to the most amative people. Bone never causes any feature to round out, except the joints of round-boned persons, and these are *hard*, and show their solid character.

When muscular persons have a good bony structure, along with a rounded, muscular development, they have more constitutional vigor to resist the inroads which excesses in sensuality make, but the fact of the presence of a fair bony development does not neutralize the amative power produced by the muscular system.

The following remarks on the influence of beauty in sex are deserving notice, and I quote them for their scientific value. They are by Prof. J. S. Grimes. He observes:—

> The adaptation of Amativeness to the admiration of personal beauty seems wisely designed to prevent the transmission of deformed and imperfect bodily organizations to posterity. It is not the effect of mere youthful fancy, but was implanted in the mind for a highly useful purpose, and therefore should be by no means discouraged. On the contrary, it seems to be of the very highest importance that it should be properly directed, and just ideas of what constitutes *beauty of constitution* should be early inculcated. This subject teaches us that the knowledge of principles upon which physical and mental energy and harmony depend cannot be too strongly appreciated as a branch of education. I seldom find a person of much energy of character who is deficient in Amativeness. It seems to give activity to Combativeness, and is generally accompanied with a large development of that organ. Males, among all animals, manifest it in a greater degree than females, and I have seldom found it very large in females, without observing at the same time, an uncommon manifestation of the masculine traits.*

This observation of Professor Grimes is in the main correct. It is true that strong, amative propensities are more peculiarly masculine, yet a woman well endowed in this respect will exhibit a more marked and energetic character than one who is deficient in this faculty and function. Still, animal passion in a woman (unless excessive) is just as natural and normal as in man, and highly conducive (as I have shown) to creative efforts, mentally, as well as to generative capacity. "Combativeness," as Professor Grimes remarks, "is always active with large Amativeness." Why? Because Combativeness is the outgrowth of the muscular system, and is always present with a good development of *round muscles* particularly. It may not always manifest itself in belligerant acts, but may show in other ways, by giving *force* and *energy* to art and oratory, and to judicial and administrative efforts.

The whole end and aim of Amativeness is marriage and reproduction, and the monogamic relation is the only true union in marriage. Polygamous marriage and prostitution are abnormal manifestations and perversions of this function and faculty. The fact that Amativeness leads to Jealousy, and that these two are the strongest emotions of the human mind, exceeding all others in intensity, should teach us that the monogamic relation is founded in the highest nature of man. Every social and domestic consideration (to say nothing of the interests of morality and progeny) demand that man as well as woman should be true to the marriage contract; for, although Nature has endowed man with powers which enable him to respond at all times to the demands of reproduction, yet she has also given him superior will as well as conscience and reason to enable him to use this power with justice and wisdom. Animals never fight so vigorously for food as they do for the possession of the female, and no motive so moves man as jealousy and love for woman. Although jealousy is a destructive trait, yet it, in a modified form, has its use in the human economy, else it would not have been there. It is, in a *normal degree*, the guardian of one's interests in the beloved of the opposite sex, and a little *judicious jealousy*, anxiety, and care on the part of the husband and wife has often preserved the unity and harmony of a family.

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* Mysteries of the Head and Heart, J. S. Grimes, pp. 84, 85. 1878.

The scope and direction cf the marriage relation has been well indicated by the Rev. Antoinette Brown Blackwell, in her admirable work on "Sexes Throughout Nature." On this point she observes:—

> If Evolution as applied to sex teaches any one lesson plainer than another, it is the lesson that the monogamic marriage is the basis of all progress. Nature, who everywhere holds her balances with even justice, asks that every husband and wife shall co-operate to develop her most diligently selected characters.*

This observation leads us to the thought that marriage must be continuous in order to propagate and educate offspring in the manner most conducive to moral and mental excellence. A plurality of wives would result in a union whose leading features would be licentiousness and the development of sensual traits. Mormonism is a proof of this, and the fact remains that with all their boasted superiority of polygamous marriage the Mormons *have not produced any superior children* who have become known as either mentally, physically, or morally equal to those born in the monogamic relation. This is certainly a most convincing argument against their form of marriage.

The interests of the family demand that the minds of *both* parents should be centred on their children, and this can exist only where there is one husband to one wife. It is often observed, in cases where a step-parent enters a family, that the harmony of the family is destroyed through a conflict of interests resulting. What must be the condition of those families where there are several wives and many sorts of children? Surely jealousy and all base passions must be rife, for human nature cannot be changed to suit any human institution, and the nature of nearly all women and most men is in harmony with monogamic love and marriage; and, although religious superstition may for awhile pervert this sense, as it does among the Mormon women, and they may bear what they freely concede is a "great cross" in polygamic marriage, yet the purity of Nature will assert itself, and this terrible institution will be swept away, and none will be more rejoiced at its downfall than its poor, deluded female victims. The delusions of these people should teach the great danger to morality that there is in allowing superstitions called "religions" to dominate the mind. Sound morality, as inculcated by the ten commandments, is a pretty good code to live by, and one needs but little added to it to be truly religious. Morality is always morality, but religion can be so perverted that men will worship snakes and other degraded animals, under the name of religion. It is well to examine all religious systems by the light of science before venturing too far into their doctrines, for *science is true to God's laws*, hence all morality and true religion are founded in the nature of man himself, and this must be understood *scientifically* before correct systems of ethics and religion can prevail. Moses, who formulated the great moral code of civilized races, was undoubtedly a great physiognomist as well as hygienist, and comprehended human nature better than any other man of his day. He was as talented in this direction as Shakespeare, but Moses seemed to have had a better understanding of man *physically* and quite as well mentally as Shakespeare. (Read Leviticus, chap. xxi, verses 17 to 22.)

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* Sexes Throughout Nature, Antoinette Brown Blackwell, p. 136. 1875.

The founders of the Grecian religion, or Mythology, took a most just and comprehensive view of the faculty of sex-love, or Amativeness, embodying it as a *universal creative principle* in Nature. They typified their understanding of this all-pervading law in the statues of Aphrodite, the Greek Venus, a beautiful woman, who represented to them, as Mrs. Jamison has observed, "the principal element of beauty, of love, and of fecundity,—or the law of continuation of being, through beauty and through love." The love of the beautiful of the opposite sex is a trait derived from the action of Amativeness, and tends toward race improvement, by creating a love for, and a desire to select in marriage, the most beautiful in form and feature from the opposite sex, and this taste, being a universal one and exhibited *according to the idea of what constitutes beauty*, leads to progressive development of the human family by the slow process of instinctive sexual selection. Could this method of selection be superseded by a cultivated knowledge as to what constitutes *true beauty*, such as is taught by scientific physiognomy, the race would be carried forward with rapid strides toward perfection. When men learn what are the signs of physical strength, moral grandeur, and intellectual power in the face and form, such knowledge will *influence* their choice of wives and will eventuate in reproduction only by the finest types. It will not avail to argue that "Love is blind, and man will marry whomsoever he loves;" blind love is blind indeed, but intelligent love *sees by law.*

All knowledge, *consciously or unconsciously*, influences man in all the acts of life, and if children grow up with a knowledge of the truths of physiognomy they will be able to detect in an individual, at a glance, the signs of moral strength and weakness, as well as of all the meanings revealed by the form, the size, the color. and quality of all with whom they come in contact, and this will as surely influence men and women in their choice of a life-companion as it will in their choice of friends and partners in business. "Knowledge is power."

That the faculty of Amativeness is instrumental in developing love of beauty is not only shown by the fact that it is large in the characters of all great or good artists of all sorts, such as painters, poets, singers, etc. Its physical signification has been remarked by other observers.

LOVE OF YOUNG.

Definition.—Love of children, animals, and pets; parental instinct; impulse to reproduce. This trait is shown by fondling, petting, amusing, and caring for young children, animals, and pets of various kinds, and a taste for propagating plants and animals.

An *excess* of this sentiment creates foolish fondness for children and results in ruining both their bodies and minds, for children who are overindulged have a very poor chance of surviving, as they are allowed to defy all rational hygienic laws.

A *deficiency* of the parental feeling makes one indifferent to children and pets, sometimes tending to harsh treatment of them, and where parental love is quite lacking the character is often harsh, brutal, or a very narrow or defective one. All well-balanced characters exhibit a fair share of Love of Young and of Amativeness, its nearest neighbor and natural ally.

Facial and Bodily Signs.—The most pronounced facial sign of the Love of Young is situated on either side of the local sign for Amativeness, in the *upper lip*, causing the outer corners to droop and form a *slight scallop.* Where these two traits are well developed their signs in the upper lip create the beautiful form denominated a "Cupid's bow." The same sign in the same locality in the upper lips of dogs and cows is quite marked, and their love for their very young offspring is intense. Many horses and dogs manifest ardent love for the young of the human species, but are indifferent or ferocious to adults.

When this sign in the upper lip is red and moist the associated sentiment is strong, and the glands involved in nourishing the young are normal and active. The lachrymal glands of the eye also exhibit a humid appearance, and the mammary glands of the breast are usually well developed.

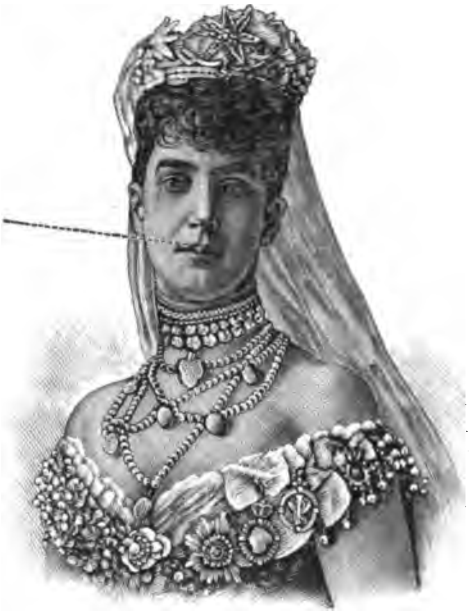

Fig. 34.—THE PRINCESS ALEXANDRA, OF WALES.

Born in Denmark, 1844. Wife of Albert Edward, Prince of Wales. Principal facial sign, Love of Young. The law of the straight line and curve governs this physiognomy. The face of this lovely and graceful princess shows in a marked manner the presence of all the domestic virtues, among which Love of Children and Pets is supreme. A great degree of artistic talent is also exhibited. The curving outlines of the jaw, chin, and shoulders, and graceful poise of the head reveal this capacity, while the lithe figure is additional proof of this decided power. The signs for Love of Home and of Country are large. Amativeness, Benevolence, and Conscientiousness are well marked. Constructiveness, Color, Analysis, Hope, Ideality, Mental Imitation, Veneration, Self-will, Form, Size, Color, and Order disclose æsthetic tendencies. The entire organism is one of high and delicate quality.

Description of Love of Young.—The origin of Love of Young is the glandular system. The situation of its principal sign near the mouth is one proof of its origin. The fact that a fine development of the mammary glands is essential to the nourishment of the young is more convincing still. A normal supply of the lacteal glands connected with the function of digestion is necessary to the perfection of the former function. The lacteals must be able to secrete from the food taken into the stomach sufficient material for the sustenance of offspring. Now, if the lacteal glands, which are connected with the intestinal system, or the mammary glands (which are those that secrete milk), are defective in this mechanical construction or normal action, it will be readily seen how the mother would utterly fail in the duty of nourishing her infant. It is logical to infer that any part of the system which performs a certain function creates the mental sentiment which naturally flows from the exercise of that function. Now, the *sentiment* of Love of Young must, under this logic, flow directly from a fine development of the mammary and other glands peculiar to females. We know that this trait is stronger and more perfect after the mammary glands have been exercised in the performance of the maternal function than it is prior to such activity, and this is still further proof of the interaction of the faculties of the mind with the functions of the body. It is true that many women possess very decided love of children who are physically incapable of nourishing them, but in all such cases, if thoroughly investigated, a cause for this seeming inconsistency would be found. Either the organs of digestion are defective, or, as in some cases under my observation, the mechanical construction of some part of the mammary glands is faulty, or bad habits of *dressing* in early life have impaired the function of lactation; or it may be some other accidental cause that prevents the mother from performing her full duty to her offspring. A good physiognomist would have to know something of the heredity of each case in order to give a correct opinion as to the *cause* of the discrepancy between the presence of the faculty or sentiment and the absence of functional vigor.

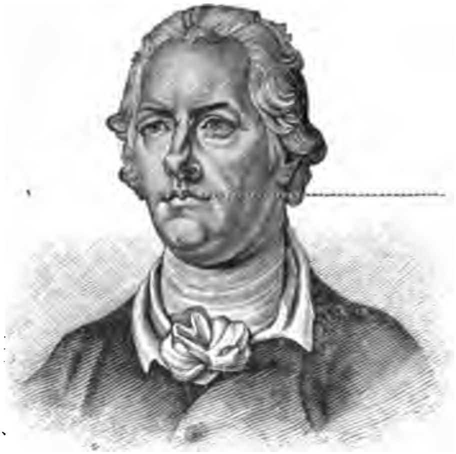

FIG. 35.—WILLIAM PITT, EARL OF CHATHAM. (ORATOR AND STATESMAN.)

Born in England, 1708. Conspicuous facial sign, Love of Young, quality fine. The law of the straight line and curve governs this physiognomy. The domestic traits are very conspicuous in this face, as in all eloquent orators and truly great men. Amativeness, Love of Young, Mirthfulness, Sanativeness, Benevolence, Color, Approbativeness, and Modesty are highly developed. The nose shows that the signs for the following are very large: Hope, Analysis, Mental Imitation, Sublimity, Constructiveness, Veneration, Acquisitiveness, Executiveness, and Self-will, while Form, Size, Order, Calculation, Reason, and Memory of Events are equally powerful traits in this commanding countenance.

The love of young presents many diverse aspects, and mental as well as physiological aspects, to the student of human nature. Its first view shows a physiological base; its next phase is the mental aspect. The faces of all eminent characters, especially the faces of great artists, actors, singers, writers, poets, and novelists, exhibit a large sign for Love of Young. In Dickens' face it is most uncommonly developed, and his delineations of children's characters in his works show a rare insight into and a great sympathy with the young. Miss Louisa Alcott, who is a most gifted and interesting writer for youth, shows in the contour of her upper lip a wonderful development of this trait. Like its next neighbor, Amativeness, it bestows *creative talent*, and those who are excessively fond of children are always prolific and ingenious in tricks, tales, and games with which to amuse the young. Animal-tamers and successful horse- and dog- breeders possess this faculty largely, and this trait, in combination with Constructiveness, gives them the ability to invent ways by which to manage and instruct the animals which they are rearing and training.

Love of Young extends its sympathy not only to animals, both young and old, but also to plants and pets of all kinds, and leads often to very useful discoveries in the propagation of plants, flowers, etc. Wherever this trait is well developed Mirthfulness is also correspondingly active. Indeed, these two traits seem to stand in direct and close relationship, for Mirthfulness is essential to the care and entertainment of the young as well as of animals.

When Constructiveness is present in combination with this faculty and a *good brain system*, the story-writing capacity will be present. The ability to invent games is another department of this combination. Great aptitude and love for teaching the young will be exhibited where this combination is manifested, and, with Friendship large, the very highest talent for teaching youth is present.

A very large majority of mothers allow their love for children to control them, instead of endeavoring to balance it with reason and justice. The consequence is that many children grow up selfish and ungovernable, and make very poor citizens. Many unhappy marriages are caused by the unwise petting of boys, particularly, by mothers, for women are apt to indulge their sons the most, and this makes them exacting and overbearing in marriage. I often think, as I note the selfish and unreasonable behavior of children toward their parents, how much the parents themselves need "bringing up" in the duties of parenthood. How many beautiful children have found an early grave through the unwise indulgence of mothers! How many naturally amiable children have become selfish and disagreeable through the injudicious treatment of foolishly-fond parents! I think that parents often lose sight of the fact entirely that there is a duty due the parents from the child, and that a great deal of thought and consideration should be shown to parents by their children. This they will do if they are *trained* to regard their parents as something more than mere slaves to their every wish and whim. Many parents in their old age reap a harvest of bitterness and suffering through the neglect of children upon whom they have lavished every care and all their means. Too much love, like all excesses, breeds inharmony. There are more inmates of the State prison and penitentiaries who have been spoiled by indulgence than by the severity of their parents. In the early days of this republic, when a sense of religious duty and responsibility to God for their conduct influenced both parents and children, there was a much smaller number of people confined for crime. In those days obedience to parents was enforced, not only by precept and example, but was re-inforced by wholesome discipline and restraint. Many parents refrain from correcting their children for fear they will lose their affection. Moderate and reasonable discipline and penalties for broken laws always seem right to those children who have a fair degree of Conscientiousness, but to the child in whom Will is dominant anything which opposes his desire seems an injustice. Of such children I would say to parents, Endeavor to *level up* other traits to the height of their will; encourage them to *reason* upon the wrong and right of every question that comes up, and endeavor to develop their sense of justice, friendship, and filial affection in order that their *will* shall not be their master. Endeavor so to train the child that love, reason, and justice shall have a balancing effect upon the character. Never "break a child's will," but *train it*, so that it shall be the servant instead of the master. A good, strong, well-trained will is an excellent element, and will assist one's material interests. Whatever faculty is found in excess in a character was placed by design, in order to assist a defect in some other direction. It should be the duty of parents to find out these defects, and by all means in their power endeavor to establish a balance or equilibrium, for equilibrium is the law of the universe and must prevail, or chaos and suffering will result.

The love of young does not necessarily impart a tone of general kindness to the individual. General kindness proceeds from benevolence, sympathy, or from friendship. Many persons and races manifest great fondness for their offspring, yet are unkind and even cruel to adults. Spurzheim observes of this trait:—

> It produces only *sympathy for young*, *not general tenderness*, for the New Zealanders are ferocious, yet both parents are much attached to their young, and submit to all the inconveniences of bringing them up amidst privations and hardships of every kind. And ferocious tigers and hyenas are as fond of their young as the gentlest and most docile of animals.

This trait is perhaps the strongest one in the human mind,—at least, in mothers. The reason for this is obvious. It is her privilege to nourish and train the young, hence Nature has especially adapted her, mentally as well as physically, for this work. Amativeness is man's strongest propensity, and this powerful emotion in him is subject to many changes; but maternal love is the most enduring affection on earth. This intensity and fidelity on the part of the mother is necessary in order that she shall be willing to undergo the pain and privations necessarily connected with child-bearing and the rearing of infants. In the great plan and design of the human mind this love for offspring was made the supreme maternal faculty. Without this supremacy of maternal love humanity would cease to be perpetuated, for lack of the care essential to the rearing of infants. As a rule, parents are best adapted to rear their own offspring, because long acquaintance with the same elements of character in their own families will give them some insight into the characters of their own children; yet in many cases children can be better brought up by strangers, if the parents are overindulgent or too neglectful.

The two functions of gestation and lactation, which are peculiar to women, and for which man has none that are analogous, show her to be possessed of a superiority of mind in this direction, at least; for, if we adhere to the theory laid down in scientific physiognomy, viz., that there is a mental faculty emanating from each physical function, we must conclude that woman possesses, both in number and quality, more mental faculties than man—that in certain developments of mind she is his superior. How true this is, the training and rearing of the offspring by woman clearly show. This exercise of authority gives her peculiar fitness for participating in government, for the women of the world have served a long apprenticeship in this science, in having governed all the children of all the world up to the time of their majority. Imperfect as may have been her management, yet this experience has fitted her for government quite as well as the father, who takes very little active part, comparatively, in the government of his children. And this practice woman has had since Eve began to "raise Cain," and made such a signal failure with his character. Man should no longer be willing to deprive himself of woman's assistance in governmental affairs, since he deems her insight into character so much superior to his own, by not only trusting her to rear his children, but by giving her the charge of their education as well; for nearly all girls and boys are educated by female teachers; and women have been found capable of pursuing every mental profession which men follow. Even such abstruse professions as law, mathematics, medicine, and theology are practiced by women in a very creditable manner in various parts of our country.

Maternal affection, being the most powerful passion of woman's nature, is in danger of being carried to too great an excess, and thus defeat its best purposes. To make idols of children is to degrade their nature as well as that of the worshiping mother. Idolatry has a weakening and selfish influence upon children, and often leads them to neglect and despise the mother, instead of reverencing her. Indeed, there is too little reverence for age in our American children, who should be trained to respect the physical helplessness of old age, as well as the wisdom and ripe experience which most old people acquire. Too little attention is paid to this most important part of character-building. To me there is something inexpressibly sweet and tender in the character of an aged grandmother, whose mind and thoughts go out entirely to her children and her children's children; yet many children are permitted to treat their grandparents in a rude and disrespectful way.

There are very few children who can be governed by *love alone*, and parents who make the character-building of children a serious matter will find that *every element in human nature must be brought into activity if they would build wisely and with power.* One must not only appeal to love, but to reason and conscience, to patience and approbativeness, to friendship and faith, and indeed one must, like a skillful musician, learn to touch every chord in a child's nature, if he would awaken the most beautiful harmonies. Man can no more live upon love alone than he can exist upon bread alone; hence, *obedience*, prompt and implicit, should be demanded by all parents from their children, and the training in this direction should commence in the *cradle.* Every good result will follow this course, if pursued *judiciously.* There are more children spoiled and made wretched, useless, and unhappy by too much love and foolish fondness, than by too great severity.

MIRTHFULNESS.

Definition.—Love of amusement, humor, wit, ridicule, and jesting; joyousness; love of the ludicrous, of satire, and good-natured sarcasm; joviality, festivity, hilarity, vivacity, gayety, gladness, and facetiousness, all proceed from this faculty as a base.

An *excess* causes ill-timed mirth and folly, and makes the character light and trifling. It creates levity, and weakens the sense of propriety, if too freely indulged.

A *deficiency* of mirth and humor is shown by melancholy, unhappiness, and ill health, and sometimes leads to insanity and suicide.

Facial and Bodily Signs.—The most pronounced signs of Mirthfulness are found about the mouth and eyes. Dimples or wrinkles at the corners of the mouth are the primitive signs, and are derived from development of the glandular system. Upward curving of the corners of the upper lip; full, moist lips; large, bright eyes; wrinkles running outwardly from the corners of the eye, and dimples in various parts of the body; a rounding head, and forehead rounding laterally; dimpled hands, a muscular body, and limbs with small, round bones and round muscles, are the best adapted to playful, sportive mirth.

DESCRIPTION OF MIRTHFULNESS.—The faculty of Mirthfulness is almost universal. It is well marked in the higher animals, not only in their early years, but also in the adult stage. This faculty being universal would point to a primitive function as its source, and accordingly we find its local signs in the face, mainly about the mouth, which is the most important sign for digestion and the most primitive of all the functions. The dimples near the corners of the mouth are caused by excess of glandular formation at those points, and the principal sign being located in glandular tissue proves its glandular origin. The love of laughter, mirthfulness, and jollity depends upon, primarily, a well-nourished body. Spare, pinched, starved-looking people seldom laugh, but look solemn, and probably feel solemn and woe-begone. In order to feel merry, the juices of the body, eliminated from the food by the function of digestion, must be of sufficient quantity to *warm* the body to that degree that it produces bodily comfort, such as to induce laughter and merriment. This comfortable and well-nourished condition fills out the contour of the body with soft, adipose tissue, and thus causes dimples, not only in the cheeks near the mouth, but, as is often seen in well-nourished infancy, all over the body, as well as on the limbs, the fingers, and the toes.

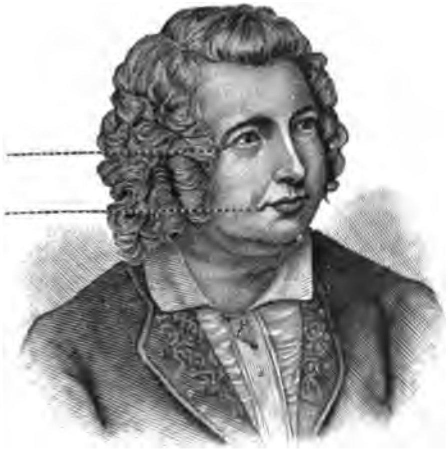

FIG. 36.—ELIZA COOK. (POETESS.)

Born in England, 1817. The law of the curve and straight line governs this face. Conspicuous facial sign, Mirthfulness, shown by dimples at the corners of the mouth, wrinkles at the angles of the eyes. The countenance of Miss Cook smiles all over. The eyes, mouth, dimpled cheeks, and curling hair all announce a merry, witty, fun-loving disposition. The domestic signs are all apparent,—Love of Home, of Country, and of Young. Hospitality, Mirthfulness, Benevolence, Approbativeness, Friendship, Modesty, and Self-esteem are very decided. The signs of literary ability in the nose, eyes, and forehead are equally developed. Mental Imitation, Analysis, Ideality, Sublimity, Constructiveness, Color, Acquisitiveness, Self-will, Language, and Memory of Events find or derive a strong support from the fine domestic base which this face discloses. The author of "The Old Arm-Chair" shows her developed domestic nature in this celebrated poem.

Although it is claimed by many naturalists that animals do not laugh, I maintain that they do laugh *in their own peculiar fashion*, just as they express all their feelings and intellectual processes, in their own way. Dogs grin and laugh, and their eyes glisten, their bodies squirm, and they whine and howl with delight upon seeing some beloved human friend. They *act* also for the amusement of their friends, and play tricks and little comedies, and behave in a very "waggish" manner. The faculties of Mirthfulness and Love of Young are most decided in many of the canine tribes. Their love for children is remarkable, and, looking at the gambols of a group of boys, with a dog in company, one would suppose that the dog believed himself to be one of them, and a very important member of the company, too.

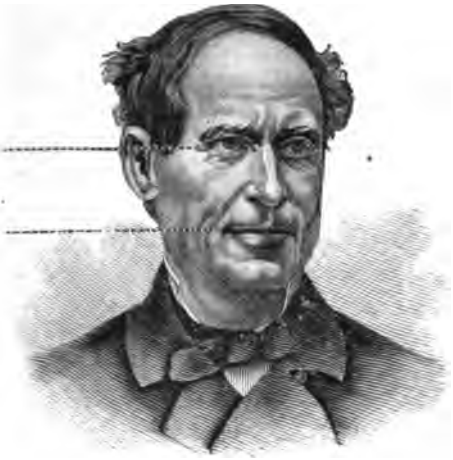

FIG. 37.—DAVID G. FARRAGUT. (VICE-ADMIRAL OF THE AMERICAN NAVY

Born in America, 1801. Conspicuous facial sign, Mirthfulness, shown by dimples and wrinkles at the corners of the mouth and outer angles of the eyes. Wit, fun, and mirth are displayed in unmistakable symbols all over this kindly face. The domestic traits are well illustrated here,—Love of Young, Amativeness, Love of Home. Patriotism, Hospitality, Firmness, Conscientiousness, Benevolence, Self-esteem, Approbativeness, Color, and Modesty are equally powerful, while Cautiousness is normal, and Veneration, Executiveness, Self-will, Observation, Locality, Sanativeness, Form and Size, Language, Constructiveness, Memory of Events and Reason are pre-eminent. His energetic conduct and devotion to the Union cause in the late war won for him grateful recognition from the government of the United States, which created for him the above rank.

There are several departments of Mirthfulness, for this trait, like all faculties, has many aspects. The physiological or anatomical phase must first be considered in order to arrive at its origin, for without knowing the origin or base of a faculty it is impossible to get a scientific or truthful analysis of it.

The love and desire to laugh is the primitive phase of Mirthfulness, as is evidenced by laughter being the form of mirth which infants and young children make most use of. Later, after the muscular system comes into activity, the muscles assist, in games, romps, and sportiveness, this primitive phase of the fun-making propensity. Where there is a good combination of the glandular system, together with a fine development of the muscles, a very high grade of fun-making ability is manifested, not only in games and sports, but in athletics as well. If to this combination a suitable brain system is allied, the highest talent for wit, story-telling, writing for children, and creating comic scenes and amusing and ingenious jokes will be present.

The love of laughter purely is an infantile trait, and some individuals retain an ardent love of laughing, with or without cause, to adult life. This class of persons never cease to be children, and no one expects anything very intellectual of them; but if an individual possess a combination of the muscles, brain, and glands, of fine quality, the intellectual or artistic phase of mirth will be manifested, and will result in works of art, comic pictures, comic acting, or in practical jokes, etc. For the purposes of acting out this mirthful propensity one must have flexible muscles and a certain kind of intelligence; accordingly, in those who have this propensity we find that the head is rounded out at the temples or just back of them; the muscles at this part being round produce this curved appearance. The proof of this lies in the fact that those with square bones and flat muscles never present this rounding outline at this point. Round bones and round muscles together produce the kind of character best adapted to fun-making, and, accordingly, we find this to be the peculiarity of structure of the most talented comic actors, as well as opera-bouffe singers. The personalities of Mlle. Croizette and Mlle. Reichemberg, of the Comedie Française Theatre, are excellent illustrations of this peculiar combination. Joseph Jefferson, comedian, exemplifies this phase well. Not only is this class of people characterized by roundness of the head and sides of the forehead, but we observe that all the bones are round: the forehead is rounding, the joints are round and flexible, and the bones concealed beneath muscles; the cheeks and chin are round and dimpled, for small, round bones alone allow the dimple in the chin to form; square bones would not permit of it; hence the single round dimple in the chin gives us a clue to the whole bony and muscular structure of the body, and from this structure we can safely predicate the presence of many other traits and mental powers.

The faculty of Mirthfulness, pure and simple, it will be remarked, gives the love of laughing solely, but for love and ability for playfulness, sportiveness, acting, etc., we must look to the high development of the muscular system in combination with the glandular. That the normal development of the glands gives a love and capacity for laughing and playfulness, all nature attests. Infants who have been healthy and mirthful will, upon losing the warmth and flesh engendered by perfect digestion, become cross, peevish, fretful, and seldom smile, but upon restoration of the functions to normal action laughter and mirthfulness reappear spontaneously.

Mirth and laughter assist digestion, while sadness, anger, and all the passions, except love, arrest and impair this function. As before remarked, where Love of Young is observed in the countenance, we may expect to find Mirthfulness also, as its companion. The converse of this is true; where there is large Mirthfulness, the Love of Young will be also present, for when Nature creates a faculty, such as love of children or Mirthfulness, most of the faculties needed for its expression in some form or other are provided, and work in harmony with it.

The mental uses of Mirthfulness are most important and varied. Not only is it the direct assistant in the rearing of the young, but it also enlivens every age with its flashes of wit and good-humored sarcasm. It also acts as a public censor, and ridicules whatever is inappropriate, silly, or wanting in good taste. It serves the cause of truth also, by holding up to ridicule all that is mean, ignoble, and unworthy. In combination with Reason, it presents in a ludicrous and pithy manner the foibles of fashion, and is the basis of the cartoon now so popular for satirizing public errors, measures, and men. It acts in conjunction with all the faculties in a mental way; with large Mental Imitation, Reason, Ideality, and Language, will express logical and beautiful thoughts tinctured with humor and wit.

Those possessing Mirthfulness, combined with Force and Resistance, are perpetually teasing children and animals, as well as adults. Possessed of large Amativeness, Mental Imitation, and Language, combined with Mirth, they will love to talk, joke, and romp with the opposite sex; with Mirth, Friendship, Language, and Mental Imitation, are most entertaining, and are sought for their amusing qualities; with large Self-esteem, Language, Mental Imitation, and Constructiveness, will always be dignified in expression, yet very amusing and witty on a high plane; with Mirth, Constructiveness, small Secretiveness, Mental Imitation, small Self-esteem, and large Approbativeness and Comparison, will be droll, facetious, and laughable; and with an active, keen brain system will flash forth unexpected and impromptu bursts of wit, fun, and well-aimed jokes and speeches.

Mirthfulness is one of the most prominent traits observed in the physiognomies of the aged, and conduces to health and longevity. There are very many grades of this trait, and the development of the glands and muscles about the mouth discloses these various degrees of power. Anatomists find most astonishing differences in the development of the muscles about the mouth and lips and do not know how to account for it. They seem to think that there should be a uniformity of development of the muscles, and that there should be a similarity of muscular development in the lips of all. Now, scientific physiognomy explains *why* these differences exist, and also shows *how* to discern these variations, together with their diverse meanings. No other science is able to do this, yet all these indications are properly a part of medical science, and those intending to become physicians should have a comprehensive knowledge of this science.

The reader can make an excellent generalization in physiognomy by collecting the portraits of those who have been eminent in mirth, wit, comic acting, and ingenious in writing for the young, or in witty and amusing literature. Take, for example, the faces of Piron, Dickens, Eliza Cook, Nell Gwynne, Rembrandt, Defoe, Voltaire, Hogarth, Rabelais, Lucy Larcom, Aimèè, Lotta, Mrs. Adelaide D. T. Whitney, Mrs. John Wood, Laurence Sterne, Benjamin Franklin, and Henry Ward Beecher, and place them side by side, and a fine illustration of the fun-making talent in the poet, the painter, the divine, the statesman, the actress, the novelist, and essayist will be had. Most particularly notice the little triangular-shaped muscles, the levator labii proprius, and the levator anguli oris, just above the external angle of the mouth. In melancholy characters there is no trace of this development, but in natural fun-makers of all sorts these muscles are large and add to the beauty of expression of the mouth, while laughing, talking, and singing. Every faculty which is well developed sets a sign of beauty in the face. The reason why many fail to recognize these indications as beauties is that the masses are ignorant of the *meaning* of forms of features, and have besides imbibed very erroneous notions in regard to beauty from the prevalent crude and ignorant public opinion in regard to human nature and the human face.

APPROBATIVENESS.

"The love of praise, howe'er conceal'd by art,
Reigns, more or less, and glows in every heart;
The proud to gain it toils on toils endure·
The modest shun it but to make it sure.
O'er globes and sceptres, now on thrones it swells,
Now trims the midnight lamp in college cells;
'Tis Tory, Whig; it plots, prays, preaches, pleads,
Harangues in senates, squeaks in masquerades;
It aids the dancer's heel, the writer's head,
And heaps the plain with mountains of the dead;
Nor ends with life, but nods in sable plumes,
Adorns our hearse, and flatters on our tombs."—YOUNG.

Definition.—Love of praise and commendation; desire to be distinguished and popular; love of attention, display, esteem, and approval; ambition; the faculty which creates politeness, agreeability, and fine manners; it also engenders a spirit of rivalry, emulation, and ostentation. It gives a desire for compliments, and the capacity for paying them.

An *excess* causes undue and injudicious efforts for popularity and creates vanity, jealousy, rivalry, and "shoddy aristocracy." When overbalanced, it induces a dread of censure and ridicule, and leads one to prefer a fine reputation rather than a good character. It also takes away all true independence by creating anxiety as to what the world will think about one's actions.

A *deficiency* of Approbativeness tends to make one regardless of the opinions of others, and causes one to be gruff, rude, impolite, and brusque. It takes away all incentive to excel, or to become distinguished for the excellencies of mind and manner. Deficient Approbativeness makes one care very little for improvement and progress.

Facial and Bodily Signs.—The principal facial sign for Approbativeness is shown by a dimple or by one or two vertical wrinkles in the cheek, on a line outwardly, about one inch from the principal sign for Mirthfulness and adjoining Hospitality and Friendship, its natural allies and assistants. It wreathes the countenance with smiles, and nods and bows in approval and acquiescence. It is large in actors and all classes of artists, and in those of large social natures.

DESCRIPTION OF APPROBATIVENESS.—Approbativeness derives its support from the action of the glandular system, like all the rest of the faculties in the neighborhood of the mouth. It is likely that a separate and distinct portion of the glands is directly related to each of the faculties that are dependent upon this system, yet all are benefited by its general and normal action. The healthful and powerful action of the glandular portion of the intestinal system gives rise to many beautiful traits as well as useful functions, not the least useful of which is Approbativeness. As a direct assistant and co-worker with Hospitality and Friendship, it occupies an important place in the social department of character, for it not only affects those faculties whose facial signs lie nearest to it, but stimulates and arouses in turn all the faculties of the mind; hence it is that it requires a good substantial *physical basis* for its support. The *dimples* which are characteristic of approbative people are caused mainly by the deposition of soft, fatty tissue in the lower cheek, and are seen even in infancy. The vertical wrinkles which form here later in life are caused by repeated smiling in an approving manner, the muscles of the other parts of the face, particularly those about the mouth, contributing to this effect. The signs of the faculties as well as functions observed in the lower part of the face, it will be observed, have a similar base, and derive their support from the action of the intestinal or vegetative systems. Their origin is not only determined from their nature but from their proximity to similar traits, or those which in their nature and action lead to or assist similar results as those by which they are surrounded.

Approbativeness gives rise to love of commendation and praise, and makes one sensitive to the speech and opinions of others. It causes individuals to be ambitious and to desire to excel, not for the love of right and excellent conduct purely, but that they may be praised and well thought of. It seeks to gain a reputation rather than a character; to seem, rather than to be. It is distinguished from the faculty of Self-esteem in that it seeks the good opinion of *others*, and cares more for the applause of the world than for the approval of self. Its action is often mistaken for that of Self-esteem by superficial readers of character.

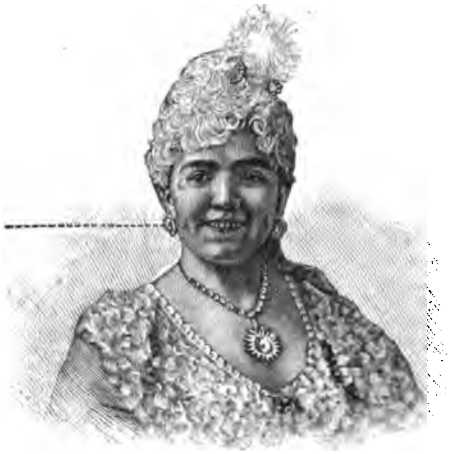

FIG. 38.—MISS OTIS. (AMATEUR ACTRESS, OF NEW YORK.)

Principal facial sign, Approbativeness, shown by dimples in the cheeks about one inch outwardly from the corners of the mouth. The law of the curve and straight line governs this physiognomy. All of the signs for dramatic talent are conspicuous in this countenance. The domestic traits are well represented. Amativeness, Love of Young, Mirthfulness, Benevolence, and Friendship are large, while Human Nature, Ideality, Constructiveness, Form, Size, Color, Language, and Memory of Events aid the artistic aspirations, which are clearly in the line of comedy, farce, and burlesque.

The faculty of Approbativeness is found larger in actors, singers, artists, and athletes than in other classes of public characters. It is essential to the success of these people, for the approval of their audience is the spur and incentive to still greater efforts. It is also large in politicians, for their popularity with the masses keeps them in power and adds to their importance and distinction. Approbativeness is preeminent in those who are fond of fashionable life, who love display and make great exertions to "keep up appearances." This trait leads public men and orators to desire popularity, praise, and attention, and, in excess, makes "shoddy aristocrats" of those who ought to be proud of being American citizens, who should be content to be classed among the "plain people," as the good Abraham Lincoln termed the laboring masses.

Approbativeness, in a normal degree, is the incentive to many great and noble deeds. It inspires all classes to put forth their best efforts in order to outstrip all competitors. In the education of youth and the training of animals it is a most useful faculty where it is possessed in a balanced degree, giving agreeability of speech and manner, making people polite, courteous, and complimentary, and fostering and developing the many little acts of attention which the demands of hospitality and society require. It raises a spirit of emulation between shop-keepers and causes them to carry and display finer stock than their neighbors, gives a feeling of rivalry between athletes, oarsmen, marksmen, billiardists, and chess-players, and creates in prize-fighters a desire to pummel their opponents to death. Among scholars it arouses all the mental powers in order to satisfy the ambitious desire to be at the head and win prizes, scholarships, and diplomas. Even generals, statesmen, and officers of every grade and station are more or less affected by its action.

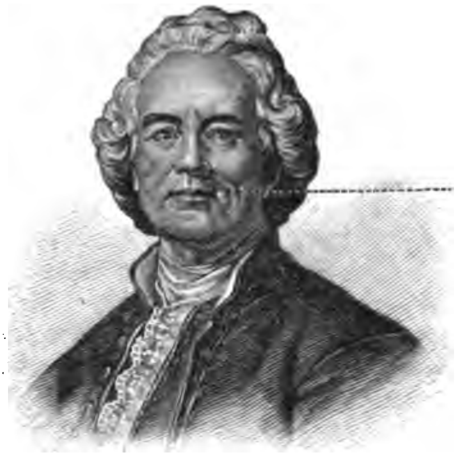

FIG. 39.—JOHANN CHRISTOPH VON GLÜCK.
(MUSICAL COMPOSER AND AUTHOR.)

Born in Germany, 1714. Conspicuous facial sign, Approbativeness, shown by dimples in the outer part of the cheeks. The law of the curve and straight line governs this face. Here are revealed artistic and inventive faculties of a high order. The domestic nature is strongly manifested. Amativeness, Mirthfulness, Love of Young and of Home are equal in development to Benevolence, Conscientiousness, Friendship, and Hospitality. The literary and artistic powers are shown by the signs for Ideality, Mental Imitation, Sublimity, Analysis, Constructiveness, Veneration, Form, Size, Locality, Color, Language, Music, Time, Memory of Events, and Intuition.

It has its national sphere of action, and some nations as a whole possess this approbative sense in a marked degree. The French are wonderfully permeated by it; one might say they are saturated with it, for their national glory is a subject dear to the heart of every Frenchman. Their pride of their manners, dress, and industrial and artistic achievements is most extraordinary. Much in contrast to the English, who yet have quite enough of it.

Approbativeness assists the cause of morality by making men and women conform to the established laws and rules of society, under penalty of "being talked about," losing their good name, etc. For fear of being held up to scorn and contempt, bad people hide their evil deeds from the light of day, and this is the only compensation they could make to society, for their wickedness, for example, is contagious, and "hypocrisy is the tribute which vice pays to virtue." Concealment of crime is better than its bold and open practice; yet love of truth and honor for their own sakes is a higher motive. If Conscience is wanting in a character, Approbativeness is a good substitute, stimulating the individual to good deeds and great efforts in order to win the commendation of his friends; yet a fair share is beneficial to all, for the most honorable man, if blunt and too outspoken, creates enemies, makes no one happier by this course, and often defeats his own good purposes.

Perhaps the greatest abuse and perversion of this faculty is found in its leading the community to perpetuate extravagant follies in pursuance of what they term "following the fashions." The injuries done to the body by the silly and unthinking devotees to corsets, tight shoes, false hair, and paddings cannot be too strongly condemned, for they lead to gross immoralities as well as to physical deformities. As an instance of how far the deformity produced by corsets and tight waists has spread, I may state that I do not think I have ever seen a civilized woman with a waist of normal dimensions, for no woman can be said to have a waist and body of normal shape if it slope at all *inward* from the bust to the hips. Normal waists, such as are seen in the statues of the Venus de Medici and other female ideals, exhibit the outlines of the waist *curving outward* from below the bust. The fashionable style induces just the opposite form, and this deformity continued through several generations has produced myriads of misshapen men and women who are afflicted with pains and disorders induced by this malformation and vitiated condition of *all* their internal organs; and all this is cheerfully and smilingly borne in deference to fashion's decree. Women of uncommon strength of mind submit to this mode of torture rather than appear singular or bear the criticisms of others upon their hardihood in wearing a sensible and healthful dress. There are other evils by the score that are prompted by overindulgence in Approbativeness, but I rank this as the *very worst one possible*, for whatever vitiates, deforms, and weakens the body of the mother of the race demoralizes all her offspring, and demoralization commences in the physical constitution of man.

There is in regard to Approbativeness a universally erroneous public opinion. It is thought that vanity (which is the excess of this trait) is pre-eminently a feminine characteristic, and that man, the "lord of creation," possesses very little Approbativeness or vanity as compared to woman. Now, all the *facts* of *Nature* attest that the converse of this is true, for in looking over the males of the animal kingdom we find them to be possessed of "ornaments of all sorts, such as combs, wattles, protuberances, horns, air-distended sacs, topknots, naked shafts, plumes, and lengthened feathers, gracefully springing from all parts of the body." In the human family we find that the male is in nearly all races furnished with a beard and moustache, and a feature so universally peculiar to the male sex and so pronounced in appearance is worthy investigation, for it certainly must be the outward indication of something inward. Nature never creates a feature without intending it for a double purpose, and therefore she causes it to reveal both its uses and meaning.

Now, what is the meaning, the logic of these extra ornamental appendages observed in the males of animal as well as of the human species? In answer to this let me state that in tracing the signification of phenomena in the human family I always study first similar appearances and characteristics in the lower races, and here I usually get both the clue and verification. Now, the males in the various bird tribes which are endowed with combs, wattles, long plumes, sacs, spots, and uncommonly brilliant plumage, such, for example, as the peacock, the turkey-cock, the resplendent trogon, the bird of Paradise, the Argus pheasant, the Solise pheasant, the several varieties of the gallinacea or domestic poultry, such as grouse, quail, partridge, cocks, and game-cocks, show by their conduct the use, effect, and meaning of these extra ornamental appendages. Their use is to attract the opposite sex by ruffling their brilliant plumage, erecting their combs, filling out their air-sacs, coloring their wattles by filling them with blood, spreading their tails, and distending their throats, as do the pigeons and other birds. When their feathery toilet is "got up" to suit their vain conceits, they strut and gabble, whistle and prance, whirl and wheel up and down before the plain and humble females as much as to say, "Look at me! Am I not a grand and gorgeous creature?" The effect of this extra and peculiar personal ornamentation is to *create vanity*, love, and desire for display and approbation in these feathered beaux, and tends to develop vanity by its excess. In still lower orders of the animal kingdom we find that the males in most instances are endowed with extra ornamental appendages, such as bright-colored spots. As low down as the coleoptera or beetle tribes even, and in the lepidoptera or butterfly and moth families, the males are furnished with more brilliant plumage, down, and markings, stripes, and spots than the females. The same law obtains in the arachnidæ, or the spider family; also in the crustacea, or shell-animals, both of marine and land tribes; and all are familiar with the appearance of the extra hair, mane, horns, and colorings of the male lion, tiger, sheep, goat, and deer. Even among fishes the males of some species are more brilliantly colored and spotted than the females. In the human species the beard and moustache correspond to the hirsute beards and hairy and feathered ornaments in the animal kingdom, and they *point to precisely the same result*, viz., Approbativeness, and, in excess, vanity, for these well-marked sexual characteristics are relied upon by man, *consciously or unconsciously*, to attract the opposite sex, just as the males of the lower races rely upon their extra charms to attract their female friends.

The beard and moustache serve as a benefactor to some men, for the beard of the chin conceals deficient Conscientiousness, Patriotism, Love of Home, and Firmness. The moustache conceals lack of Self-esteem, Modesty, Amativeness, and Love of Children. Providence has been very kind indeed to our brothers, for it has bestowed upon them a sort of masked battery behind which they are able to conceal the poverty as well as the wealth of the garrison, and so get poor, defenseless females to capitulate without at all knowing its deficiencies. We should have no defense in this direction did not scientific physiognomy come to our aid and permit us to *unveil* and *interpret* every appearance of each feature of the face.

The proof that man is generally more innately vain than woman is not far to seek, for the boasting which nearly all men and youth indulge in in regard to their power over the minds of females is so common and universal as to be within the knowledge of all. Women, on the contrary, are not so universally conceited on *this point*, but, like Barkis, are "willin'" to try their power for charming the other sex, but do not possess that *supreme confidence* which makes some men in their second childhood even believe themselves to be irresistible when they sue for and obtain the hand of a girl of sixteen. Good, square common sense, untinctured with vanity, would lead those old patriarchs who marry young girls to understand that such unions are abhorrent to natural law; yet vanity inborn in regard to the opposite sex leads hundreds of octogenarians to perpetrate the folly of marrying a playmate for their grandchildren. Old women rarely commit the folly of marrying young men, and then in most instances it is either to *mother* some helpless boy or to transmit property, or to secure a disinterested custodian to protect property interests, etc.

I find that men, as a rule, are not as vain about their clothes and outward appearance as women. The reason for this is obvious. Woman, not possessing the extra personal ornaments and all-abounding confidence which man has in regard to the opposite sex, relies upon clothing, neatness, sweetness of manner, accomplishments, etc., to attract man, and this is her form of endeavoring to gain approbation, esteem, and compliments from him. Those who flatter and praise most are the most susceptible to flattery, and man, being more given to flatter than woman, gets a return with interest when any point is to be gained; yet he invariably receives these attentions as though his *own real worth* or personal appearance called them forth, while all the time woman is only taking advantage of his weakness and playing upon his vanity. So intuitive is the female mind in the direction of human nature that little girls, even, will take a most intelligent manner of wheedling and coaxing their fathers for anything which they wish, and they are not long in finding out the most accessible and "softest" spot in their characters to aim at.

Well-chosen commendation given to one's children or those one is teaching—to servants and employés—proves a powerful incentive toward better conduct and greater efforts, while great care should be exercised to not spoil children by continually sounding their praises before them,—a course calculated to weaken character and induce vanity.

A few words of appreciation from friends often stimulates the scholar, author, and artist to their best, and gives them a real substantial strength and courage under difficulties. Yet Approbativeness, like all good and useful traits, can be abused and made to produce just the opposite effect from its normal mission.

FRIENDSHIP.

Definition.—"An attachment to a person, proceeding from intimate acquaintance and a reciprocation of kind offices, or from a favorable opinion of the amiable and respectable qualities of his mind."—WEBSTER. Also, affiliation, love of association and cooperation, love of visiting and sociability, neighborly feeling, and congeniality.

An *excess* of Friendship produces a silly, gushing manner, and leads one to neglect his own duties for the sake of the objects of his friendly solicitude.

A *deficiency* of Friendship causes unsociability and indifference to the comfort of others. It engenders selfishness and a distaste for friendly associations, such as societies and festive gatherings.

Facial and Bodily Signs.—The physiognomical signs of Friendship are known by a fullness of the upper and soft part of the cheek, over and below the malar bone. This faculty presents different phases in combination with the several systems of functions, being either physical, mental, or sentimental, according to the system which is the dominant or controlling one in the individual. Kissing, embracing, and petting are the natural language of Friendship. The signs for Hospitality adjoin Friendship on its lower side, while Mirthfulness and Approbativeness are in close proximity, showing the sort of company which Friendship keeps.

DESCRIPTION OF FRIENDSHIP.—Friendship is directly related to the intestinal system, and depends upon the strength and development of the function of *digestion* to manifest its power. The vigor and warmth created by its normal construction and efficient action give to the individual the feeling or sentiment of sociality and the desire for active friendship. Where the intestinal system is relatively weak and small, and the fullness in the upper cheek wanting, there is always exhibited a *lack* of this peculiar trait, as well as a less perfect and vigorous circulation. Those who lack all these functions have not, as a rule, a warm surface, and often suffer with cold feet and hands; they are also troubled with chilliness, and make poor bathers. The cause of this feebleness arises from the fact that the intestinal system is not sufficiently vigorous to create a large quantity of warm and nourishing blood.

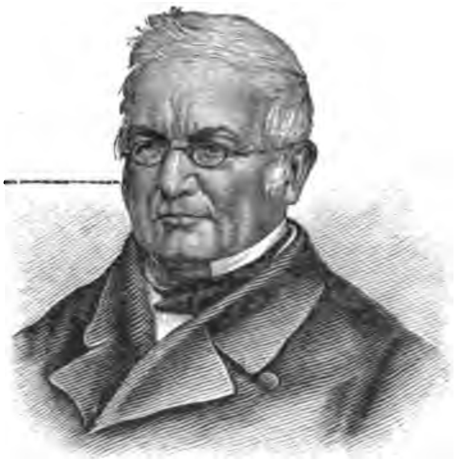

FIG. 40.—M. LOUIS ADOLPH THIERS. (STATESMAN, HISTORIAN, ORATOR.)

Born in France, 1797. Conspicuous facial sign, Friendship, shown by fullness of the soft tissues of the upper cheek. The law of the straight line and curve governs this countenance. The domestic traits are highly developed here, particularly those of Amativeness, Love of Home, of Country, and of the Young; also Mirthfulness, Alimentiveness, Economy, Hospitality, Sanativeness, Color, Benevolence, Approbativeness, and Firmness. Stamped upon this friendly face are the signs of Mental Imitation, Order, Language, Memory of Events, Constructiveness, Acquisitiveness, Veneration, Executiveness, Self-will, and Reason, all large.

As the intestinal system has a dual action, in that it both *secretes* and *absorbs*, so Friendship in its action is dual, being both *selfish* and *unselfish*. The only purely unselfish faculty of the human mind is Benevolence. This gives and expects nothing in return, being based on sympathy; but Friendship must have something in return. As its name indicates, it requires more than one to carry forward its purposes. Friends expect, at the least, *companionship*, in order to enhance their enjoyment. A man cannot prove that he is a friend if he does not *associate* with others, either socially or in fraternal societies; but the truly benevolent person can live in solitude, yet contribute to the welfare of others, either by giving them the benefit of his thoughts, or by sending them relief from his stores of goods or money, or by using his influence with others, and yet expect nothing in return, not even companionship.

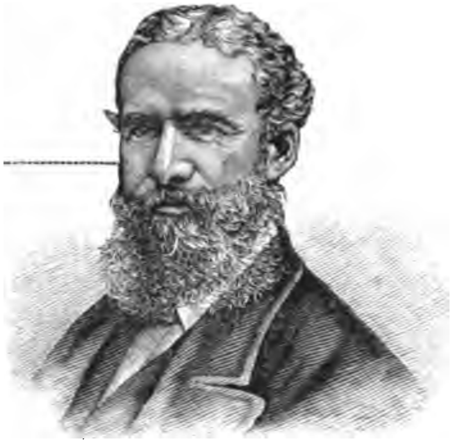

FIG. 41.—SIR JOHN LUBBOCK. (BANKER, SAVANT, AUTHOR.)

Born in England. Conspicuous facial sign, Friendship. The law of the curve and straight line governs this physiognomy. A noble and talented face; one which discloses the presence of a fine domestic character. The signs for Amativeness, Love of Young, of Country, and of Home are well defined. So, also, are those of Mirth and Wit, Conscience, Benevolence, Approbativeness, Hospitality, Sanativeness, Alimentiveness, Pneumativeness, Color, and Hope. The mental system is shown by large Analysis, Mental Imitation, Ideality, Constructiveness, Language, Human Nature, Veneration, Self-will, Memory of Events, Order, Calculation, Reason, and Intuition.

The definition which Webster gives, quoted at the head of this faculty, speaks of a "reciprocation of kind offices" as one of the requisites of Friendship, and this is its selfish aspect. Where one neighbor is constantly extending attentions to another neighbor, and showing favors in sickness and in all domestic crises, he naturally looks for similar attentions in similar emergencies. One of the chief objects of association in friendship is mutual assistance, and Nature has so constituted the human mind that it expects to receive what it gives. Now, if one is endowed with the warmth and strength derived from a vigorous system, he will in the first place warm toward or be attracted to others, and thus, his sympathetic feeling being aroused, it results in active deeds, in personal services, both to the well and sick, in the proffer of material and substantial assistance, in defending the absent friend and his interests, in case of slander, fire, or disasters of all kinds; and this friend would soon lose his interest in those about him did he receive no appreciation from those upon whom he has heaped favors and kindness, for one stimulates another, and kindness begets kindness, and thus by attention the friendly man develops friendliness in others. I confess myself greatly indebted to a friend's example for much that is friendly in my own character, for my early life was passed in such seclusion from friendly associations that although having the desire I did not understand many of the little amenities which adorn social life, and thus was obliged to learn them by example from one gifted in Friendship. Some persons possess this trait as a talent, and make and retain strong and enduring friendships, and grieve deeply if death or separation deprive them of the society of their friends.

Those deficient in Friendship often possess a good deal of Benevolence and show their sympathy more by *giving* than by doing or by associated and co-operated efforts, for those deficient in Friendship derive little satisfaction from association in a social way, yet may possess and exhibit a large share of love and sympathy for a conjugal companion, or, with Language large, will evince *sociability* in casual meetings, yet seldom or never invite friends nor join fraternal societies.

A keen analysis is needed to discriminate between the action of Friendship and Benevolence. It is true, they are often found well developed in the same individual, and where this is the case a very *sympathetic*, *charitable*, and *friendly* spirit is exhibited. Such a one is a benefactor to his race. In the faces of Florence Nightingale, Elizabeth Fry, and Touissant L'Ouverture, and other well-known friendly and sympathetic characters, who worked for the good of others, these signs are well defined.

Where Friendship is largely exhibited in combination with fine inherited quality, the individual will evince a strong magnetic, attractive nature, which spontaneously arouses like feelings in others, and, with a good intellect in combination, he will be able to attract, hold, and greatly influence the lives and opinions of thousands. Henry Ward Beecher and Spurgeon, the eminent London divine, are good illustrations of the latter class.

Hermits and misers exhibit by their faces, as well as in their habits, the absence of all that goes to make the ardent friend, for Friendship gives a desire for embracing and kissing, and these are the natural and spontaneous impulses of friendly natures, yet the former classes of persons are not moved to such demonstrations of affection simply because the warmth and vigor, the exuberance of feeling, which a strong intestinal system creates, are lacking, and their impoverished natures have nothing to *give*, hence it never occurs to them that they are suffering for want of friendliness On the contrary, they repel all advances made by sympathetic people. As a rule, misers and hermits present a shriveled and wrinkled appearance, with long, thin faces; flat, pale cheeks; and thin, pallid, or ashen-colored lips, lack-lustre eyes, and spare bodies. It is a logical inference that persons thus constituted would neither possess the strength nor inclination to move actively in association, nor would they be able to glow with desire to benefit others, as do the friendly and benevolent, so truly are we the "slaves of our organism," as Emerson expresses it.

Without the faculty of Friendship all men would be hermits and isolation, instead of association, would be the rule. It is the principle of association that creates governments and makes all large enterprises possible. It is the same feeling which gives to our family life much of its comfort and happiness, for the domestic and social traits blend in together, and thus mark out a course of enjoyment which both elevate and enrich the character. It is true that social affairs can be made a source of injury if carried to the extreme, and in this country there is great danger to be apprehended from what may be termed "social dissipation." Many families who can ill afford it rush into social extravagancies, and not only ruin their own welfare, but set a bad example for others to follow. Again, many men and women, in the exuberance of Friendship, join fraternal societies when they have neither the time, strength, nor money (if they do justice to themselves and families), while others are like the man who "joined so many lodges that he had no time to lodge at home." Yet the cultivation of Friendship within reasonable limits strengthens the bonds of brotherly love and mutual helpfulness.

In building up a friendship, one should estimate it as so much capital invested in one of the most substantial things of life, for when one has put time, love, and attentions into friendly intercourse, it should not be severed except for good cause, and parents should endeavor to build up enduring friendships for their children by selecting as friends persons of high character and fine dispositions. Two or three real, first-class friends are about all one may hope to have in this world of changes, and if these can be held throughout life the individual is favored, indeed. Friendship must be founded upon mutual fitness, and esteem will follow.

Harmony in Friendship, as in marriage, is the result of suitability, congeniality of taste, sentiment, mental development, or magnetic attraction, and this single circumstance often suffices to hold friends together who seem to be quite dissimilar in tastes and pursuits.

The platonic friendships entertained by members of each sex for the other are most commendable, yet the censorious will insist there is something evil in them. Many women derive the greatest comfort and courage from the counsel of some disinterested male friend, and men often find their best adviser in some wise, pure, intuitive, and disinterested female friend. The schools in which co-education of the sexes is established develop many beautiful and lasting friendships between the sexes, and many scholars in these schools who have intermarried have formed most harmonious unions, for the reason that constant, daily intercourse in the classroom and in social life has made them better acquainted than they could possibly have become by their casual meetings in social gatherings.

The many diverse manifestations of Friendship observed in different individuals are due to the combinations with other traits, which influence the action of the social nature. Those possessed of a large share of Friendship in connection with fair Amativeness make excellent conjugal companions, and defend the interests and name of their companion with spirit and ardor; with large Friendship, Hospitality, and Alimentiveness, show their social nature by making feasts and banquets for friends; with Approbativeness in combination, will be sensitive to the blame and praise of friends, and be very much cheered and encouraged by their commendation; with large Conscientiousness, Benevolence, Approbativeness, and reasoning power, will be able to make and retain many friends, and will be of great assistance to friends by wise counsel and loving attachment; with large Force, will defend their characters and interests with great vigor from assaults; with small Secretiveness and large Language, are sociable with all, and, with large Mirthfulness, are capital fun-makers, and make vivacious and amusing companions; with Ideality added, will use only the most appropriate and refined wit, fun, and jests; with large Self-esteem, will carry themselves with dignity and seek the esteem of others, and yet make amusement for them; with literary tastes in combination, will care for the society of the intellectual, and with scientific tastes will gravitate naturally to that class of society. Where Mirthfulness, Friendship, Language, Imitation, and Constructiveness, with small Self-esteem, are well developed, there will be manifested a talent for mimicry, acting, story-telling, and practical jokes not of the most refined character; but, with Ideality large, the whole character will take on an elevated cast, and the wit, fun, and acting will be highly amusing, yet always refined and admirable.

Where Friendship is small, Benevolence large, and Self-esteem small, the individual will make few friends and take no pains to cultivate them; with large Language, will be sociable and talkative, but never advance to confiding in others, yet will give of means, but never offer personal service, and, with Self-will added, are brusque, and take little pains to disguise real sentiments, and often offend and make enemies in this way; with Friendship, Approbativeness, Cautiousness, and Secretiveness large, make few friends and then only upon long acquaintance, and are apt to be jealous of attentions shown to others, and desire all attentions lavished upon self. With large Conscientiousness, Benevolence, fair Approbativeness large Friendship, good reasoning faculties and large Self-esteem good Alimentiveness, and Hospitality, will delight in entertaining friends at home and at table, and will seek to bring friends together and be desirous of forming attachments between them; in such a character Jealousy has no foothold, and hence gets *more* out of Friendship than if troubled with petty, jealous fears and rankling envy; and, with Ideality added, will entertain in a refined manner, and offer gifts of flowers, books, fruits, and delicacies, and show to friends all sorts of refined and appropriate attentions.

Where Friendship is exhibited in a moderate degree, but with large Language, the possessor will be sociable and talkative, yet care little for the loss or absence of friends; with large Acquisitiveness, will use acquaintances as a stepping-stone to procure business; with small Conscientiousness and large Secretiveness, will be unreliable in friendship, and, with large Amativeness and small Ideality, will exhibit more animal passion than sentiment; but, with Ideality large, will prove a most satisfactory character to a refined conjugal partner.

The faculty of Friendship can be cultivated and developed like any other mental power, and those deficient in this faculty should endeavor to level up their character in this respect, for no one can overestimate the blessings and advantages which may flow from even a chance acquaintance. The friendship of a dog is worth something, as many can testify who have been benefited by their friendliness and fidelity. The sympathetic and friendly acts of the St. Bernard dogs in saving the lives of travellers in the snowy Alps are well known, and countless cases of lives saved by dogs from drowning and fire are recorded the world over. All of the higher animals exhibit the faculty of Friendship in a very *human* manner, and as low down as the insect tribes, even, sympathy and friendship are shown in a way suited to the needs and natures of these tiny denizens of earth. Indeed, animals set man a fine example in *human virtues*, for not only are they friendly and sympathetic to their own species, but develop friendships for, and make pets of, other animals, and constitute themselves the guardians and protectors of men and little children. When I see men beating and ill-treating dogs and horses, I think how infinitely superior the beast is to that man, and some animals are in certain respects the equals of the best men,—that is, in fidelity, honesty, and friendship,—and often show an ingenuity which is only limited by their peculiar anatomical structure. I do not think man possesses a faculty which is not in some degree shared by some species of animal. Certainly, the domestic and social range of faculties are all well developed in them, and reason is exhibited by ants and wasps even, while conscience is most certainly one of the leading attributes of some species of dogs and horses. The egotism of humanity has led it to ascribe to itself all earthly virtues and to animals scarce any. Not only has man's egotism led him to claim all earthly virtues, but he also claims the exclusive right to divinity and immortality, and he bases his right to that condition upon his possession of Conscience, Reason, and Memory. Now, if he has these traits, he only has *his share and kind.* Animals have also *their share and kind*, and the animal might, with as much sense and justice, deny to man his claim to immortality because he does not exhibit just the same kind and degree of Reason, Justice, and Memory or Mind as does the animal.

In the light of present-day science and knowledge of animal life, man's arrogant assumptions of superiority and immortality are ridiculous, and ought to teach him a little modesty and justice in making comparisons between the lower and higher animals. Man is constituted of the same materials precisely as the animal, and, as this points to a common origin, why not to a common destiny? I am willing to share Heaven with all the animal tribes, and am anxious to live eternally with some I have known, for is it to be supposed that the lasting and enduring friendships we have built up here for them, and which have helped to make our characters lovely, noble, and magnanimous, are not a part of our immortal inheritance? I cannot believe that all this will be stricken out of our entity,—but here I am getting beyond science and giving beliefs, something I have no right to do, while I claim to devote this book to *demonstrable facts* alone.

HOSPITALITY.

Definition.—Receiving and entertaining friends and strangers without compensation; love of eating and drinking with friends. Combined with practical faculties and Executiveness, it shows itself by active participation in public entertainments, feasts, and festivities.

An *excess* of this fine trait tends to extravagance in entertainment of friends and to the neglect of other duties.

A *deficiency* in hospitable feeling makes one unsocial and tends to isolation. *Reasonable* hospitality is a duty which we owe to ourselves as well as others, for such intercourse develops some of the most beautiful traits of character, which, if lacking, would lead to a hermit-like existence.

Facial and Bodily Signs.—The most conspicuous facial sign for Hospitality is shown by fullness of the cheek below the sign for Friendship and adjoining the signs for Alimentiveness, Mirthfulness, and Approbativeness. All of these faculties are natural allies, and are all concerned in carrying out the behests of Hospitality. The signs of the "natural cook" are in close proximity.

Description of Hospitality.—The placing of the principal facial sign for Hospitality is most appropriate, as it not only shows its glandular origin within the vegetative system, but, by its situation near the signs for those faculties and functions which act in unison with it, points out its similarity of action and identity of interests with its nearest neighbors, the domestic faculties. Where the glands are well developed and of normal action, more especially the glands directly connected with the function of digestion, a desire for association in the act of eating will arise from their operation. In animals of very low types, even, this gregarious flocking and herding propensity at feeding time is most strikingly exhibited. The same love of association, particularly at meals, marks the hospitable human being, and shows also that it is distinct in its action and effect from pure Alimentiveness, or love of food and drink, and also distinct from Friendship purely, although Friendship leads to feasting and entertaining; yet those who have Hospitality large, in combination with Friendship, will entertain more by cooking and setting table, making feasts, etc., for friends than by other modes of entertainment. This is its basic and primary phase.

Other traits which are largely developed often decide the *manner* of showing Hospitality. The grouping of the signs near Hospitality are most significant, and lead us to a logical analysis of its use and action in the human economy. Adjoining and above lies the sign for Friendship; on the forward side, the signs for Alimentiveness and Mirthfulness, both able assistants and comrades in action. Approbativeness is also a near neighbor, and "drops in" at meal-times with praise of edibles, cooking, etc., and asks for a recipe for that "nice cake" or "delicious salad," and commends and flatters the guests generally, placing all at their ease, and thus promotes digestion by giving both hostess and guest a feeling of self-satisfaction. Miss Mirthfulness, an arch damsel, ready with jest and story, bright sallies and flashes of wit, enlivens the company, and enables the glands to pour out their juices, and so good digestion, "sweet remembrancer, doth wait on appetite and health on both." Love of Home and Love of Country, in close proximity, point out to woman her special spheres for the exercise of these noble traits, and Love of Young stands close at hand waiting for mamma to dispense the dainties which all mothers love to give their darlings. Mr. Benevolence also stands close by and suggests that we send our oversupply of wheat to the starving millions of Europe, and prudent Economy lingers near to see that "nothing be lost." The prim Miss Self-esteem has arrived, and sits at a little distance in order to check any unruly mirth or breach of decorum at table, while Mr. Alimentiveness is urging all to drink, and stuff and gorge themselves; but the delicate little Miss Modesty deprecates such proceedings, and begs the company to remember that the "interests of propriety" demand moderation at table. It is in such social and merry company that we find this matron, Madam Hospitality, and a goodly company indeed she has about her.

But Hospitality is not all kindness and disinterestedness; it has a selfish aspect as well, for Nature, in order to compel action of the faculties, gives us a *personal* desire and pleasure in their exercise, and, as our pleasure in association must be drawn from others, so we derive from their society the satisfaction which we could not gain in solitude.

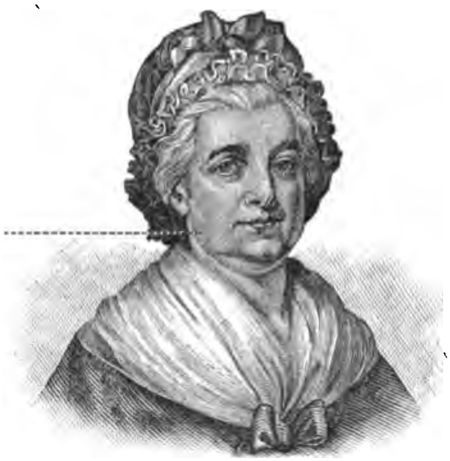

FIG. 42.—MARTHA DANDRIDGE CUSTIS WASHINGTON. (WIFE OF GEORGE WASHINGTON, FIRST PRESIDENT OF THE UNITED STATES.)

Born in Virginia, 1732. Principal facial sign, Hospitality. The law of the straight line, square, and curve governs this face. All of the social and domestic virtues shine pre-eminent in this noble countenance. Conscientiousness, Firmness, Benevolence, Love of Home, of Country, and of Children are strongly marked. So, also, are Economy, Mirthfulness, Hospitality, Friendship, Modesty, Sanativeness, Alimentiveness, Bibativeness, and Color. The mental system is of a high order, and reveals the signs for Ideality, Hope, Mental Imitation, Constructiveness, Acquisitiveness, Veneration, Self-will, Form, Size, Language, Memory, Reason, and Intuition. The quality fine, and the character conservative and well-balanced.

The analytical method of arriving at truths in regard to human nature has been very little practiced by the old-time metaphysicians, or, if used, the laws of examination were not physiological nor anatomical, hence untenable. The Self-love of man has always prevented a *truthful* examination of character, and the theological method of ascribing to the "devil" all the sinful proclivities of man has also stood in the way of a just and complete knowledge of the *real* nature and method of action of the human mind. When an individual is born with a large degree of Force and small Kindness and Conscience it is not necessary that the devil should urge him on to fight; his own peculiarity of structure supplies all the impelling power necessary to set him brawling and fighting, with or without provocation. If we put the responsibility where it belongs we shall relieve all "spirits" of complicity in this instance, except the spirit of ignorance, which is the real devil in the case.

Ignorance breeds monsters, who lie, steal, fight, and murder, and all this is done in accordance with the laws of their being, uncontrolled, of course, by a sense of right.

When I show that Friendship, as well as Hospitality, has a *dual* method of action, and that in their exercise they are both selfish and unselfish, some criticism may be evoked, for the majority of people, not being accustomed to sit in judgment upon their faculties will permit their Self-love to come between their desire to have certain faculties appear *wholly disinterested* and the exact truth, or else, not being logical, do not carry the analysis to its logical sequence. When I find a function within the organism which exhibits a twofold action, I know that the mental faculty arising from this function has also two ways of manifesting itself. Now, the glands both *secrete* and *absorb*—draw toward themselves and send out their material to enrich other parts of the body. The reasoning faculties are sustained by a generous supply of nutrition, and Hospitality, deriving its ability from a portion of the *lacteal glands*, which both secrete and absorb, gives to man the *desire* for food as well as the desire to *eat in company with others*.

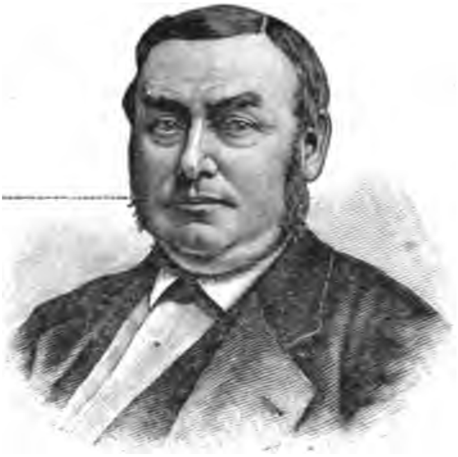

FIG. 43.—GEORGE WILLIAM CHILDS.
(EDITOR AND PUBLISHER.)

Born in America. Conspicuous facial sign, Hospitality. The law of the straight line, curve, and square governs this physiognomy. The face above illustrates in the highest degree the faculty of Hospitality. In its details it reveals the face of one of the foremost citizens of the world, for Mr. Childs may rank as a cosmopolitan both in fame and deeds. Yet the sign for Patriotism is well defined in this sympathetic, generous, and noble countenance. The large development of the domestic traits shows that a highly-developed nature must possess these as a basis. Accordingly, we find in this physiognomy large Amativeness, Love of Young, of Home, and of Country, as well as Mirthfulness, Bibativeness, Hospitality, Benevolence, Alimentiveness, Approbativeness, Friendship, Sanativeness, Self-esteem, and Hope large, with sufficient Force, Resistance, and Cautiousness to balance the character. The commercial instinct is strong, hence Human Nature, Acquisitiveness, Constructiveness, Executiveness, Self-will, Observation, Memory of Events, Time, Order, Calculation, and Reason are well illustrated. A sense of the æsthetic is shown by Ideality, Form, Size, Color, Music, and Language. Altogether a fine example of enterprising American character. The life of Mr. Childs bears out the wisdom of the choice of his face to illustrate Hospitality, for he has probably entertained more distinguished literary, royal, titled, and military characters in his several residences than any other American citizen.

Where the vegetative system is the dominant one the most selfish aspect of Hospitality will be disclosed, and the individual will offer to others only after assuring himself that he has a sufficiency for all after he has gorged himself. With higher systems in combination a more *unselfish* method is adopted, and where we observe Friendship large, along with Hospitality and Benevolence, we shall find a character that will share his last morsel with others, and be happy in so doing. In combination with the finer traits, such as Ideality, it exhibits itself by entertaining in the most refined manner; not alone by setting delicate dishes before guests, but, where the literary faculties are present, it offers intellectual and artistic entertainments, such as dramatic readings, elocutionary recitations, and poems; and, with Music large, will entertain with concerts, operas, etc.

The methods which hospitable people take to entertain their friends will depend upon their natural quality and cultivated tastes, but in whatever manner exhibited this trait usually distinguishes itself by gatherings at the domestic or festal board as part of its method of manifestation . It is more marked in women than in men, for the reason that woman is the housekeeper, has had more time to cultivate it, and as woman emerges more and more from the seclusion of home-hospitality to take part in the preparation of entertaining large bodies of people in a public way—as is now done by women who assist in entertaining large societies and associations, such as the Grand Army of the Republic, the Knights Templar, at the Press banquets, and in the annual gatherings of fraternal societies—this faculty will enlarge and strengthen, and woman will be recognized as the lady, or "loaf giver" (according to the old Saxon meaning of that term), in her larger home—the world. No public gathering where eating and feasting form a part of the entertainment is now thought complete without its committees of women, and no church could hope to succeed that did not have many social features connected with it in which cooking and feasting bear a prominent part. The larger part of church membership is composed of women, and as Hospitality is strongest in women we should naturally expect that this trait would impress itself upon these organizations. Accordingly, we find that many churches have not only parlors for entertaining guests, but kitchens and all necessary appliances for cooking and feasting, where the gentlemen friends are invited to "assist at" "strawberry festivals," "New England dinners," "hot lunches," etc., at prices usually about 200 per cent. above their real value. (N. B.—Gentlemen are requested to skip the last sentence.)

Like all faculties which are in themselves good and useful, Hospitality can become by excess and perversion a source of harm. Where people of limited means, time, or strength indulge in it to the injury of themselves or families it should be restrained. Many women neglect their families to take part in church festivals, picnics, and public entertainments. Others draw too largely upon their health to emulate and rival their friends in entertaining. Others keep "open house" all the year round, and thus squander money, time, and talents for no really useful purpose. Moderation in this, as in all good traits, should be the rule.

Many of the animal tribes exhibit very hospitable as well as gregarious habits; not only do they extend this sentiment to those of their own sort, but assist in the entertainment of other species by carrying to them and sharing with them their food. Dogs have been known to divide with their feline friends, and have even shared with strangers of various distinct species.

PNEUMATIVENESS.

Definition.—Pneumatics is the word used to describe the properties and action of air and gases, hence Pneumativeness is the name of the *physiological function* which deals with air, gas, and vapor in the lungs, and also the name for the *mental faculty* which *takes cognizance* of air, gases, and vapors. This faculty gives the love and desire for fresh, pure air, and a capacity for distinguishing readily the differences in atmospheres; detects odors and effluvia arising from decomposition; gives keenness of scent, and enables one at a distance to scent the slightest odor of smoke, gas, or any peculiar change in the composition of atmospheric air. It gives a love for outdoor life and a dislike to crowds, close rooms, vitiated atmosphere, and of vile odors. Those who have a large measure of this function and faculty exhibit great recuperative powers, also ability for imparting health to others, by hand-rubbing and by their cheerful and moral atmosphere. Those who possess large Pneumativeness are more aspiring, elevated, and actively moral than those who show a small degree of this faculty. In combination with a good quality of brain, it gives a desire for leadership, power, command, oratory, and a taste for mountains, high places, and lofty scenery. Men and animals who exhibit large Pneumativeness are fond of high, pure atmospheres, climbing mountains, towers, etc. The deer tribes and high-flying birds are excellent illustrations of this function and faculty. It is large in hunters and naturalists; also in the North American Indians, whose love of oratory, of command, and healing powers are well known. Pneumativeness gives a love of life and activity, as well as power to resist and overcome disease.

An *excess* of Pneumativeness cannot be considered injurious unless it leads one to pass too much time in outdoor sports to the neglect of necessary business.

A *deficiency* tends to weakness of all the moral and mental powers, to consumption, and early death. It is known by small, pinched nostrils, flat chest, pallid color, small love of life, feeble circulation, poor recuperative powers, chilly surface, cold hands and feet, inability to discriminate differences in odors and atmospheres, small healing power, lack of hope, and very little ability to resist disease and battle for life and health.

Facial and Bodily Signs.—Wide, large nostrils; high and broad nose, breadth of face externally to the eyes, red or pink ears, brightness of the eyes; good, fresh color of the complexion and clearness and purity of the skin; red lips and gums, wholesome appetite for food and drink; large, high chest; sprightly motions, lively gestures, hopeful and cheerful expression of the countenance, a well or normally nourished body, and lively gait. Those best endowed with the faculty of Pneumativeness exhibit a slightly receding forehead, with sharply-defined outlines of the nose and chest. The nose, forehead, and chest of those having the greatest degree of this function are in harmonious relation and proportion, and the inhalation of a great deal of air gives sharply-defined outlines of these facial features and a prominent chest, together with keenness of sensations and an active, rapid gait. The palms of the hands and the finger-tips disclose a vivid red color, while the color of the nails assumes a healthy, pinkish tint. The shape of the hands and fingers varies, and accords with the dominant systems in combination. There are many degrees of this faculty exhibited. Some subjects disclose one or more of these signs, while others exhibit all or nearly all of them.

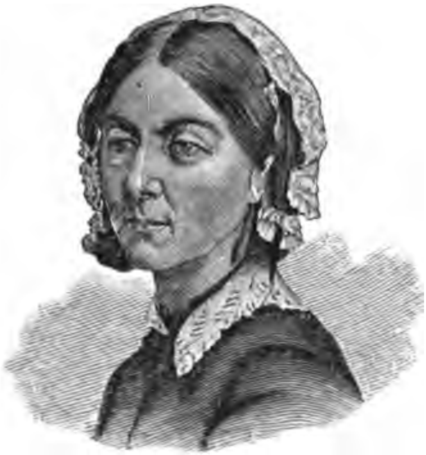

FIG. 44.—MISS FLORENCE NIGHTINGALE. (PHILANTHROPIST AND ARMY NURSE.)

Born in England, 1820. Conspicuous facial sign, Pneumativeness. The law of the straight line and angle governs the countenance. The large size of the nostrils and nose, together with the large amount of color in the eyes, skin, and hair, show that well-oxygenated atmosphere has built up a noble, pure-minded philanthropic mind and body. The large breathing powers of this lady are an ancestral inheritance. The signs for Firmness, Conscientiousness, Love of Home, Benevolence, Amativeness, Love of Young, and Patriotism are large. The mental powers of Self-esteem, Hope, Analysis, Mental Imitation, Sublimity, Acquisitiveness, Veneration, Executiveness, and Self-will are far above the average in this woman, and these constituted her great power, added to Sanativeness, the faculty which gives the talent and desire for healing the sick, the sign for which is uncommonly well defined in this sympathetic, executive face. This lady organized a band of trained nurses and proceeded to the Crimea, where her faithful services to the wounded soldiers brought deserved grateful recognition and honors from her government. Such women leave the world their debtor.

DESCRIPTION OF PNEUMATIVENESS.—The first gift of God to man, as he enters this mundane sphere, is atmospheric air; hence, this is the most important bodily function, for, as we have learned that primitive functions exert the most influence upon our lives, so our capacity for breathing, of inhaling copious draughts of air, is in direct ratio with our moral and mental powers. The lungs, then, perform the most important office of the body, and the nose is the facial register of these internal organs. We must therefore look to that feature *primarily* for our facial knowledge of what Pneumativeness does for human character. The corroborative signs—size of the thorax, bright color, and lively gait and movements—are always associated with the primal facial indication.

Undeveloped beings, such as idiots, children and infants, and vulgar, boorish, rude, stupid, and relatively immature minds, breathe mainly through the mouth, and their mouths are more or less habitually open. In animals the same appearances are discernible, and these indications teach us that the most perfected method of human respiration is through the nose, and that those persons who breathe through the mouth mainly are immature as compared with those who breathe deeply and respire profoundly with the mouth closed. Children being comparatively immature, often during infancy respire a great deal with the mouth open, but, if they possess large lungs and wide nostrils, will soon commence and keep to the most perfected human method.

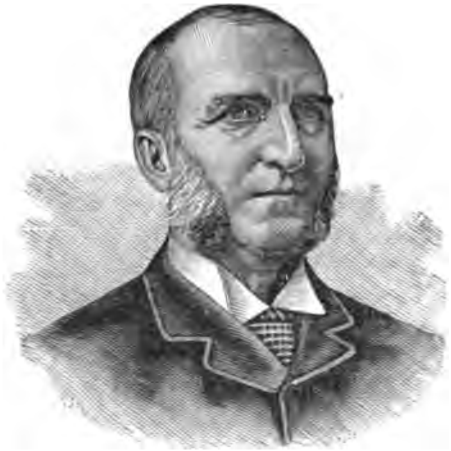

FIG. 45.—CHAUNCEY M. DEPEW.

Born in America. Conspicuous facial sign, Pneumativeness, shown by wide nostrils, large and high nose, brightness of the eyes, healthy color of the skin, cheerful and lively expression of countenance. The law of the straight line, square, and curve governs this face. This face is one of extraordinary power and ambition. The domestic nature is well developed. The signs for Conscientiousness, Firmness, Love of Home, Patriotism, Benevolence, Hospitality, Alimentiveness, Sanativeness, Amativeness, Mirthfulness, Modesty, Self-esteem, and Friendship are well developed. The power for command is shown by the large size and high and broad outline of the nose, the length of which shows a cautious, far-sighted, astute character. The extreme height of the tip of the nose above the plane of the face indicates great knowledge of Human Nature, while the signs for Mental Imitation, Sublimity, Ideality, Acquisitiveness, Veneration, Executiveness, and Self-will are all exceedingly large. Observation, Locality, Form, Size Color, and Language assist the mental and mechanical powers. When with all these powers we find the indication of a high degree of Reason, Memory of Events, and Intuition we have all the elements in combination of a first-class organism.

The action of the emotions affords us also a means of judging of the value and significance of these different modes of respiration, for, in sudden surprises—in laughter, in crying, and in outbursts of grief, anger, or surprise—the mouth opens and the muscles about the mouth become relaxed; the color of the face undergoes changes from the pallor of grief and sorrow to the deep red of anger and revenge, or to the green and yellow hue of jealousy, or to a white heat,—the most intense and dangerous form of anger. Now, emotions are infantile as compared to purely intellectual processes, and one who lives more in his intellect than in his feelings is better able to *command* his emotions, and will close his mouth while under their influence, and otherwise control his feelings so that the observer is not aware to what extent he is moved.

If the nostrils are pinched and the nasal passages narrow, the mouth necessarily opens to assist respiration, but this method of breathing is a reversion to animal methods. Those animals that have thick coats of hair cannot assist the lungs by "skin-breathing," as perspiration has been denominated; hence, they loll out the tongue and assist the lungs, and relieve the nose by "panting," as is observed in dogs and all of the carnivorous animals.

Deep breathing stands in close relationship to high thinking, for, as we have noted, most idiots and persons relatively immature or unintellectual breathe with the mouth open. The latter drop the jaw while gazing at a spectacle or at the sudden and unexpected appearance of an individual.

Country bumpkins and clownish rustics at a play or circus are often observed with the mouth open in awed wonderment, and when moved to laughter respond with a hoarse or hearty "guffaw," while the mouth is stretched, the head thrown back, and the muscles of the body relaxed in all the abandonment of childish enjoyment.

The most essential factor in health, usefulness, and longevity is pure air. Proof of this is had in the statistics furnished by the reports of the boards of health of all large towns and cities. By these reports we find that *three-fourths* of all deaths are due to diseases of the *respiratory organs.* Nearly all throat and lung diseases are engendered by the constant inhalation of impure air and lack of ventilation, particularly in sleeping-rooms, where we pass at least one third of our lives. Public halls, churches, and theatres are open to the same charge, and in these the majority of civilized people pass a large share of their time. *Churches* should set a *better example*, for, as to inhale pure air is the first law of God, so religionists of all creeds should make the observance of this law of paramount importance. Attempting to "worship God" in an atmosphere highly charged with carbonic-acid gas and the vile emanations from decayed teeth, sore throats, torpid livers, and foul stomachs seems a strange anomaly, for the very first and most important element of *true* worship is lacking, viz., bodily purity. People made stupid and drowsy by the inhalation of a vitiated atmosphere are not in a condition to become moral, much less spiritual; hence, I assert that the *first duty* of religionists is to have a constant supply of pure air in their places of worship.

Let us examine briefly the methods by which weak lungs and throats are developed. In one generation we will suppose that the parents remain chiefly in-doors, passing their hours of amusement and relaxation in music-halls, theatres, museums, etc., instead of in the open air; suppose that they also sleep in close rooms, and that their sitting-room is not properly ventilated; suppose that these parents neglect all gymnastic exercises calculated to enlarge the lungs, and that the mother laces her corsets and thus contracts her lung-power; suppose this course is continued for two generations,—what can we look for as the result but offspring who are afflicted with bronchitis, consumption, narrow lungs, delicate health, a weakened will, and little power to oppose immorality and scarce any to uphold morality? For the great moral efforts of life are not made by invalids, nor by narrow-chested, pinched-nosed individuals. This sort sometimes figure in the Sunday-school books as dying early, leaving behind them memories of an abnormal capacity for committing Bible texts to memory, and a longing to drop their *poor, weakly tenements of clay* to shine in realms where they will have no poor, weakly body to struggle with.

Love of life is one manifestation of Pneumativeness, but those born with narrow nostrils and flat chests are denied the great pleasure which those enjoy who have a strong hold upon life. Large-lunged people take a *positive enjoyment* in the mere act of breathing, provided it be in a pure atmosphere. I have been told by such persons that the mere act of breathing by the ocean-side or upon a mountain-top gave them supreme enjoyment. I have experienced this pleasure myself, and I can testify that the inhalation of pure air in copious draughts gives one a feeling of being *inspired*, and this capacity for *filling the lungs* with a large quantity of the purest constituent in the universe certainly leads to high and noble thoughts, to lofty endeavor, and moral achievement. No other material can so shape and mold nobility of character. That the reader may be *quite sure* that this assertion is founded in truth, let him examine the noses and chests of those who have been eminent in great moral and philanthropic enterprises, and he will be convinced that this statement is based on incontrovertible evidence. Look, for example, at the physiognomies and bodily contour of Martin Luther, John Howard, Peter Cooper, Florence Nightingale, Wilberforce, Elizabeth Fry, Froebel, and Abraham Lincoln, and he will become convinced that large lungs, broad nostrils, and high noses have a direct influence upon moral conduct and noble aspirations. To prove that the opposite of these appearances denotes just the reverse of these characteristics, let him examine the same number of persons who possess flat chests, flat and narrow nostrils, and compare their actions with those of the former, and he will add to the burden of proof in favor of lung-development.

It will not do to ascribe to the *size of the brain* or width of the forehead all the power which the former class of people have manifested. An examination of many large-brained, small-lunged persons will prove that they are *incapable* of *great efforts* of any kind, and that if they lead tolerably moral lives it is because they have inherited a fine quality of the brain and nerve system, and are thus lovers of purity. Then, too, such persons do not possess sufficient strength to be *actively* immoral, not having sufficient constitution to indulge greatly in depleting vices. Brain-power and pure intellect may lead to great mental efforts, but morality is dependent upon other constituents, and these are *primary elements*, either *watery or gaseous*, which in their very construction are composed largely of simple and pure organic materials; hence, it is necessary to morality that the lungs, the fluid circulation, and the kidney system should be normal and of superior strength and vigor. One might fill a large volume on this subject, and yet not give it one-half the consideration which it deserves.

Let us examine briefly the elements which compose man's body, and we shall find that the larger part of them is either watery or gaseous; nearly three-fourths is water. The lungs, if of normal size, must take in a very large amount of atmospheric air. It is stated in Dalton's "Physiology" that "the entire daily quantity of air used in respiration is about three hundred and fifty cubic feet." Add this amount to the nearly three-fourths of water, and we shall learn how greatly we are indebted to very attenuated substances for all the processes of life, and also that these materials are composed of the lightest, most abundant, and purest of all the substances upon the earth. Three-fourths of the earth's surface is water, and the earth is surrounded by air extending outwardly from its surface to a distance of forty-five miles. Nearly three-fourths of man's body is composed of water. Another large proportion is composed of air (by constant respiration). Thus, it will be observed that, in the matter of air and water as parts of our organic whole, we cannot be too careful in obtaining our full supply, both as regards *quantity and quality*. Pure air and pure water are thus shown to be the most essential things of life. Any system of religion or ethics which ignores this truth is fundamentally defective, and will not exist for long after the intelligence of the masses is led to comprehend these basilar and inexorable laws of God and Nature.

Great energy of mind and body is in direct relationship with the capacity for deep and profound breathing. Those animals and men that have the best breathing apparatus are found to be more talented, energetic, aspiring, hopeful, animated, vivacious, spirited, and inspiring than those who possess feeble powers of respiration. Hence it is that the inhabitants of northern latitudes are characterized by more energy and originality than those who are born and reared in tropical climes. Individuals with large respiratory systems are also *more moral and more capable of moral efforts* than those with feeble respiration, for the reason that the air, being the purest element in Nature, would naturally create purer conditions the more of this constituent there was taken into the system. I do not mean by this assertion that the savages of Africa would, by the inhalation of great quantities of pure air, exhibit more morality than a weak-lunged German or Englishman; but, *grade for grade*, he who has the best breathing power, and who inhales the most pure air, is certainly more elevated and more capable of morality than one of the same grade in evolution who possesses small lungs, and whose life is passed in the slums of a great city or in the miasmatic swamps of Africa. If this be true, would not the gospel of pure air and large lungs conduce as much to morality as a *belief* in any scheme of salvation by faith? Morality is the better part of true religion, and no mere sentimental or emotional state of mind can take the place of it. I have known persons who considered themselves very "spiritual" who were very untruthful and mercenary, and I thought how much more common honesty and truthfulness would benefit them and their associates than so much superfluous sentimentality.

Large lungs create cheerfulness, high-mindedness, and ability for leadership and command. Observe the high noses, broad nostrils, and arched chests of all the great commanders, pioneers, adventurers, and discoverers. *Not one* exhibits a small nose, knife-blade-like nostrils, and a sunken chest; on the contrary, they all exhibit fine breathing powers and a pure red and white or clear complexion. These appearances are indicative of health and purity, and can be imparted to others only by those who possess them.

Bright, fresh color and clearness of the skin and eyes are derived mainly from the action of the air in the lungs, and these natural beauties are most commonly observed in those who possess the best lung-power. An excellent way for the pallid belle to obtain the bloom of health and an attractive magnetism is to spend some time every day at the bars of a gymnasium, and in walking, rowing, swimming, or gardening in the open air. "Bloom of youth," health, and attractiveness are not obtained from the apothecary's bottles; neither is religion shut up in a church. All these are to be found in Nature's grand pharmacopœia, and are *free* to all her children if they will but make an *intelligent* application of her laws. Ignorance is opposed to religion, health, beauty, morality, and all goodness. Knowledge of God's laws as revealed by Nature will give us all these, for the "truth shall make us *free*," indeed.

Keenness of sensation and activity, both of mind and body, are derived principally from good breathing powers, for these give purity to the blood, and, if the brain and nervous system are replenished with pure blood, the capacity for *thinking* is thereby enhanced; hence, also, the sensations and perceptions will be more acute, and, as the body always moves in accordance with the rate of the circulation of the blood, so the movements of the body will be rapid and accurate. Rapidity and accuracy of movement are essential in many of the arts and sciences, and those who are thus characterized are capable of greater usefulness and are more likely to attain excellence and eminence than those whose circulation is sluggish and movements uncertain.

Acuteness of scent is one of the greatest preservatives of life and health, and the better the power for breathing, the better we shall be able to protect ourselves from noxious gases and effluvia, and from harmful, stale, and injurious foods. Those animals that possess the highest noses, broadest nostrils, and the largest chests are the best endowed with the faculty of scent. The carnivorous animals and the rapacious classes of birds are distinguished above all others in this direction, and the latter exhibit long, high, and broad beaks just where the nasal openings are situated. The horse breathes exclusively through the nostrils, hence is dependent upon wide nostrils and wide nasal passages for his ability to sustain prolonged or violent locomotion. The race-horse is distinguished above others for width of chest, wide nostrils, and *width between the eyes*, the last-mentioned facial sign denoting width of the nasal passages at the upper part, as well as a broad intelligence. The horse which can sustain the most violent and prolonged efforts wins the race, provided that he possesses also a high nervous organization, for nerve and wind are the essential factors in successful horse-racing. No matter how superior the muscular organization of a horse may be, if he is lacking in breathing power, or that peculiar *quality* of nerve which imparts keenness and *quickness* to his movements, and unless he is able to *endure* the great demands made upon him by the strain and excitement of the race-course and training, he will fail, for muscle *alone* will not win the race. It is erroneously held by many that a person who possesses a high nervous organization is unable to contend with excitements and to stand up under the great crises and struggles of life. A fine and *sound* nervous system is just the thing to endure, without flinching, the greatest excitements. The race-horse, among animals, is proof of this. It is true that when a naturally fine nervous system becomes impaired by too great a strain upon it, its possessor will become a great sufferer, but so long as it *retains* its *normal* condition no merely muscular person can endure as much excitement and as great an amount of mental strain and mental labor. This phenomena was well tested during the last war by contrasting the behavior of the men from the country with those from the city. It was thought that the city men, not having the muscle of the men from the country, and not being so accustomed to hard manual labor, would naturally succumb to the fatigues incident to the campaign; but the result proved that, with all their muscular development and ability for hard work, they could not stand the excitement of the battle-field as well as the city men, whose more sensitive nervous systems were inured to the rush and whirl of every-day city life, with its exciting fires, mobs, processions, theatres, and social festivities.

There is no doubt that the function of Pneumativeness is represented in the brain. Presiding as it does over the most important functions of life, it must have a strong representation there; indeed, as I have elsewhere stated, the brain is functional of the whole body. The function and faculty of *scent* can be *traced directly* to the brain from the olfactory ganglia situated above the root of the nose, where it is protected from injury or destruction by its sheltered position, for, were the external nose to be entirely amputated, the sense of scent would still remain to a great extent, and thus protect the lungs and stomach from noxious gases and injurious food. On this point Dr. Cross remarks:—

> The nasal apparatus is the porch of respiration, and the sense of smell is the sentry; hence, it may be laid down as a general rule that atmospheric air is wholesome or unwholesome in proportion as its smell is agreeable or disagreeable. As odorous effluvia tend upward, so the nose comes to be percipient of substances entering the mouth; and it is found that food is wholesome or unwholesome in proportion as the smell is grateful or ungrateful. The sense of smell, therefore, is superintendent of the breath and assistant superintendent of the food. The nose, then, stands in a double relation,—in the relation of porch and sentinel to the lungs, and in the relation of assistant sentinel to the stomach and assistant forager to the mouth. The nose, in its capacity of giving passage to the breath, indicates energy in general, and, in its capacity of assisting and watching over the

interests of the alimentary organ, indicates the external application of this energy toward the acquirement of the necessaries and comforts of life. The larger the nostrils, the greater must be the current of breath, and, consequently, the more energetic the individual. As breath is indispensable to life, Nature has made more orifices than one into the lungs. The nostrils, however, are the proper entrance for the breath, and the more the breath passes through them, the more genuine is the energy and the more does it pursue an active channel; whereas the more the breath passes through the mouth, the more does the energy take a passive channel and expend itself in appetites and passions. Hence, openness of mouth, much speech, and much blustering are no tokens of either energy or courage.*

Of the sense of scent Dr. Cross observes:—

> The nose could smell without the projecting part, though by no means so *acutely* or so determinately in the same way as a person could hear, though not so distinctly, without external ears. As the duty of the auricle is to collect the rays of sound, so the duty of the external nose is to collect the odorous effluvia. As physiognomical indications are more favorable in proportion as the construction of organs is more suitable for the performance of functions, so the more this nasal prominence is calculated for catching odorous effluvia and conveying them to the nerve of smell, the better shall be the practical application of the predaceous energy.

It is thus seen that the faculty of Pneumativeness creates the faculty of judging of odors and atmospheres, hence those who are the best endowed in this respect will be the most capable in the matter of ventilation, and in this way large Pneumativeness directly promotes the capacity for discriminating between pure and impure air. As a rule, small-nosed persons are not as good judges of atmospheres as those with large, broad noses; neither do they seem to suffer as much discomfort while inhaling the air of close rooms and crowded assemblies. Those who possess large lungs poison very quickly in a crowded assembly from inhalation of carbonic-acid gas, which arises from the exhalations of the crowd, because they inhale more poison in a given time than do those with smaller lungs. In man, as in the animal, breadth of nose and nostril gives keenness of scent by reason of the more extensive ramification of the olfactory nerve, for, as in nerve distribution the more the nerve is spread out upon a surface the greater is its capacity for receiving sensations, noses which are broad at the junction with the forehead, as well as broad at the nostrils, are the best endowed in respect to the function of scent.

A fine illustration of the great differences in the sense of scent can be had by observation and comparison of the noses of the blood-hound and bull-dog, on one side, and of the greyhound, on the other. The former are wonderfully acute. The blood-hound's sense of scent is so greatly developed that it is used to trace criminals by the use of this scent alone, for, once having smelled any article belonging to the suspected person, it can follow miles over rough countries and keep up the trace and detect the individual by the peculiarity of his personal odor; while the greyhound's nose is so narrow that the nasal nerves have no room for proper development, and this is true of many other animals. Persons with long, thin, narrow noses and pinched nostrils make very poor cooks because not sensitive in the matter of odors, just as thin-lipped people are insensitive to flavors through lack of space for the nerves of taste to ramify. Let it be understood, however, that *quality* always takes precedence of mere size in all functions and faculties. I have known some very fine caterers and cooks who exhibited long noses, with only average-sized nostrils and relatively thin lips, who were cooks of a high order; yet, those persons were endowed with *fine and sensitive nervous organizations*, and thus high *quality* assisted their gastronomical and culinary efforts.

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* An Attempt to Establish Physiognomy upon Scientific Principles, p. 214 *et seq.*

A great deal of the sense of flavor or taste is due to the assistance rendered by the sense of smell, for the nose perceives odors before the tongue and lips sense them, for the reason that odors, perfumes, and effluvia are more subtle, hence more quickly recognized than flavors. Part of the pleasure of taste is due to the agreeableness of scent. Our food would not give us one-half of the enjoyment which we would otherwise derive from it, for the full effect of substances is not obtained until they are actually swallowed; while the sense of smell perceives them and derives pleasure and satisfaction from them, even if never tasted, although the sense of smell and the inhalation of agreeable odors would not nourish the body, as they are entirely too attenuated. This thought reminds me of an anecdote told of a traveller, who, being very hungry and possessed of little means, stopped in front of a pastry-cook's establishment, and for a long time inhaled and enjoyed the odors of the cooking going on within. Upon preparing to depart, he informed the cook that he was as much satisfied with the odors as if he had eaten a good meal, whereupon the cook seized him and demanded payment for his meal. This he resisted, and, as they could not agree, they decided to leave the case to the judgment of the first man who passed. He chanced to be a foolish sort of a fellow, but he, with a Solomon-like sense of justice, decided that the traveller should take out his coins and jingle them in the ears of the cook, and that he should be as satisfied by the *sound* of the coins as the traveller was with the *smell* of the food!

The pneumogastric nerve controls the function of respiration and connects the lungs with the function of nutrition, with the stomach, heart, spleen, gall-bladder, and liver. This close connection of the two principal functions of life teaches us that they bear a most important relation to each other. The blood must receive its proper share of aliment from the stomach, and the blood thus created must receive sufficient oxygen while passing through the lungs in order to sustain the brain and replenish the tissues. When either of these conditions are lacking the mind takes cognizance of it, and the efforts of both body and mind are correspondingly impaired. The pneumogastric nerve has a large representation in the brain, and this interaction of many organic functions with cerebral consciousness reveals to us the immense importance of pure air and good nourishment to mental efforts. The presence or absence of these two factors can be readily detected by observation of the facial and bodily signs of Pneumativeness.

To remedy defective Pneumativeness one should avoid crowded assemblies, sleep and live in ventilated apartments, pass much time out-of-doors, and increase the size and capacity of the lungs by gymnastic exercises, improve the quality of the blood by good food, tone up the nervous system by avoiding all stimulants, such as tea, coffee, and spirits, and secure plenty of sleep. All of these functions are mutually dependent, and failure of one involves injury to the others.

The principal facial signs of Pneumativeness—the nose and large nostrils—are situated in the centre of the face, and are thus suggestive of its high importance. Its location above the mouth makes it the sentinel of the lungs, while the heart, brain, and stomach are directly influenced by its action. Its secondary signs corroborate all of these relations to all of the viscera.

GLANDULAR AND ARTERIAL SYSTEM.

COLOR.

Definition.—The capacity for distinguishing colors, tints, hues, and shades; ability for applying colors harmoniously in art, science, and mechanical trades; talent for painting and dyeing; comprehension of colors scientifically, as in the use of the spectroscope. The highest use of this faculty is scientific, and gives ability to comprehend the differences existing between the several sources of light and the several uses of the various spectra, viz., the chemical spectrum, chromatic spectrum, ocular spectrum, solar spectrum, and of the spectrum analysis and thermal spectrum.

An *excess* of color in the human organism would hardly be considered abnormal, unless a Caucasian took on the color of an African. A bright and fresh, clear-red color of the cheeks is always indicative of thorough oxygenation of the blood, and is therefore normal, healthy, and to be desired. Where the complexion of the face assumes a dark-red color inflammatory or febrile action is denoted. Where it is of a purplish hue apoplectic tendencies are indicated. Where the gums and the color of the face assume a dark and inky aspect disease of the heart is present.

A *deficiency* of color in the eyes, hair, and complexion of the human races, and in plants and animals, denotes a lack of vigor, power, strength, and *beauty*.

Facial and Bodily Signs.—Decided color of the complexion, eyes, eyebrows, and hair are the principal facial signs of the presence of the color-sense. *Clearness* of the skin is another indication, and the veins showing plainly through the skin still another sign of susceptibility to the impressions made by colors.

DESCRIPTION OF COLOR.—Those of my readers who may have imbibed the phrenological notion that the faculty of Color, or the color-sense, in the individual is disclosed by the *form* of a certain part of the eyebrows, and caused by an "organ" of the brain at this place, would do well to analyze the sources of color and its action and method of distribution in the human organism before placing too much reliance upon *form* as the indicator of *color*. This fallacy is no more absurd than is that of inspecting the development of the frontal *bone* to ascertain the degree of tune or music in an individual. Forms do not indicate color; neither does bone reveal the ability for musical expression. As well examine the elbow for the faculty of Imagination as to look at the *shape* of the skull for indications of the color-sense.

The arching of the eyebrow, which is set down in works on phrenology as *the* sign for Color, is caused by the *curving* of the muscles, and is one indication of artistic capacity, viz., the capacity for producing *curved forms*. It is seen in the faces of many great artists in adult life, and I have often observed this peculiarity of formation in the physiognomies of those deficient in the sense of Color, and in others partially color-blind, but with ability to draw curved forms and run machinery. On the other hand, I have observed a very high and marked degree of the color-sense in many whose eyebrows were perfectly horizontal; yet these subjects exhibited fine and clear complexions of red and white, or red and olive, together with well-colored eyes and hair. Color, as remarked elsewhere in these pages, is created by the action of the glands in extracting the elements of color from the foods taken into the stomach, and also by the action of air upon the blood as it passes through the lungs; hence, it is palpably absurd to look for color-signs in any particular *form of feature* or of the body.

Color is a primitive faculty, and is found in a greater or less degree in all animals that breathe, and in all vegetation which is exposed to the sun and air. It is a part of the entire organism, and is exhibited in infancy, both in the body and face, and is shown by the love of bright colors.

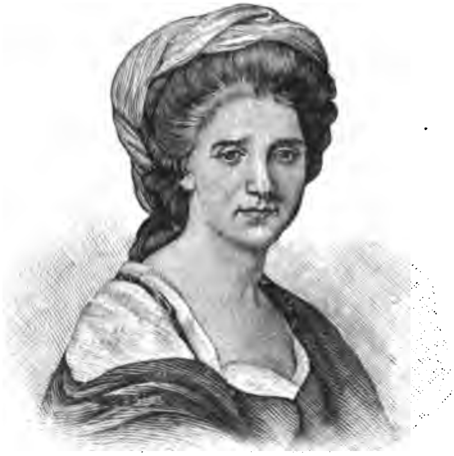

FIG. 46.—MARIA ANGELICA KAUFFMANN.
(HISTORICAL AND PORTRAIT PAINTER.)

Born in Switzerland, 1741. Principal facial sign, vivid color in the eyes, hair, and complexion. The law of the straight line and curve governs this physiognomy. All the signs of artistic capacity are present in this lovely face. A fine domestic nature is a good foundation for artistic ability, and in this face we see that the signs of Amativeness, Benevolence, Love of Home, of Young, and Country are well developed. The curve predominates and is seen in the oval of the cheeks and chin, in the outlines of the lips, the cheeks, the eyes, and eyebrows; even the hair is wavy; these, altogether, indicate the ability to reproduce curves in external works of art. The color-sense is of the highest, while Analysis, Constructiveness, Ideality, Acquisitiveness, Sublimity, Imitation, Locality, Language, Music, Form, Size, Order, and Intuition are well defined.

George Combe says as follows:—

> Dr. Gall "discovered" this "organ" by comparing together the heads of painters distinguished for coloring. In a collection of portraits of both male and female artists who had distinguished themselves in this department of art the region immediately above the middle of the eyebrows was extremely prominent.*

As in all natural artists, the muscular is one of the dominant systems. It shows by a wide space between the eye and brow, and by an *arched* appearance of the eyes, eyebrows, and other portions of the body; hence, the *curving* upward of the centre of the eyebrows in this class of subjects is caused by the *form* which the muscle creates. Now, in natural mechanics the opposite appearance is observed; the bones of the superciliary ridge *project* and are drawn down close to the eyes, and produce an angular or horizontal form to the eyebrows, regardless of the color of the individual. I have remarked in some eminent musicians the most exquisite color-sense, but in these cases the complexion was of the most brilliant description.

Colors of various hues are found in *every form* and *shape* in organic and inorganic life,—in every mineral, vegetable, and animal in existence,—and, although color as it comes to us in white light describes a wave-like form or motion (caused by its vibrations through the ether or atmosphere), its *form* does not reveal the several *chemical constituents* which cause its *color;* hence, we are able to confidently assert that, in order to ascertain the amount of color in a given organism, we must look not to any particular *form* for this knowledge, but to the source and general distribution of color throughout the object under observation. Color is as universal and as widely distributed throughout Nature as is Form. Its action and effect are simply illimitable. It permeates and pervades all things. The white light of the atmosphere is a combination of all the colors known to man, and by their chemical blendings produce the light which appears to us colorless or white. We are enveloped in a sea of color, and actually bathe in it. What wonder, then, that those who live much out-of-doors should be permeated with color and exhibit it in their complexion, eyes, and hair? The most beautiful colors displayed in animal and insect life are observed in those creatures that live entirely in the open air, and, what is more remarkable, the most gorgeously colored of all are those which deal professionally, as it were, in colors, viz., the butterflies, birds, and insects of the tropics. Now, this peculiarity of this class of creatures reveals the same love of color which characterizes the well-colored human being, for they show their possession of the color-sense in precisely the same manner as do artists and those who love colors—by always seeking them out and enjoying them in flowers and bright substances.

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* Combe's Lectures on Phrenology, p. 237. New York, 1871.

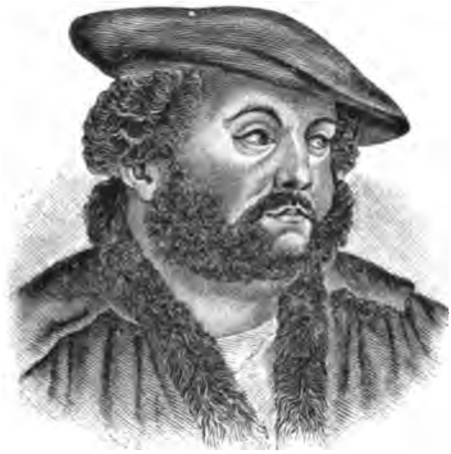

FIG. 47.—HANS HOLBEIN. (GERMAN PAINTER.)

Born 1497. Principal facial sign, Color. The law of the curve dominates this face, with a subdominance of the straight line. His remarkable combination of deep color with curves proves that artists are born, not made. The signs for the basis of artistic power are all present, hence we find Amativeness, Love of Young, Benevolence, Love of Home, Patriotism, Hospitality, Friendship, Alimentiveness, and Sanativeness large. Coming to the nose we see the signs for artistic capacity—Ideality, Sublimity, Analysis, Human Nature, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will—exceedingly well defined; while Size, Form, Language, Credenciveness, Prescience, Memory of Events, Locality, Weight, Time, Order, Calculation, and Intuition very large, and altogether make up the remarkable face of a justly celebrated artist.

Color is related to Pneumativeness, or the breathing faculty, for the blood is colored by the air as it passes through the lungs. Color is also related to the glands, which extract the coloring matter from the foods taken into the stomach. I therefore regard the glands and the arterial system as the base of the color-sense.

Nothing affords one possessed of the color-sense more enjoyment than to ramble through fields and gardens dressed in living green and dotted with many-hued blossoms, or to visit an aviary filled with the bright-colored warblers of the tropics, the golden oriole, the pheasant, the paroquet, the parrot, the bird of Paradise, the macaw, the lyre-bird, the sun-bird, the plume-bird, the humming-bird (well-named by the Indians the "living sunbeam"); or to watch the sky at set of sun, and note the ever-changing hues of the clouds as they run the whole gamut of colors, shades, and tints, from sombre drab and violet to azure, saffron, vermilion, purple, pink, and lavender, and to the gold and silver hues cast by the sun and rising moon,—a chromatic symphony costing us nothing, yet filling the whole being with exquisite enjoyment and gratitude.

Birds and brightly-colored butterflies seek out the most brilliant-colored flowers, and are never observed dwelling long on those which lack color. These classes of creatures are furnished with apparatus which allows a free circulation of air through their organisms, and this intensifies the power of the atmosphere to assist in the oxygenation of the air which permeates them. The bones of birds have a cellular construction which aids them in rising in the air, as well as assists the aëration of the blood and also promotes coloration of the plumage. Marsh-birds are dull-colored, and nocturnal birds and animals are never so brilliant in color as those which spend their days in the higher atmospheres.

Butterflies and certain moths and beetles possess and exhibit a fine æsthetic sense both as regards Form and Color. They appear to live wholly for the gratification and display of these two faculties, and no artist has ever excelled them in these directions.

A high cultivation of the color-sense is a *religious duty*, and all parents should see that their children are instructed in this direction. The lives of thousands are dependent upon knowledge of colors, as in comprehending the signals by colored lights at sea and on railways. Boys, particularly, should be instructed in chromatics, as many of them will follow professions which necessitate the knowledge of colors. Males are woefully deficient in the color-sense as compared to females; for this reason boys should have *special instruction* in this department of Nature. Colors are interwoven into the every-day life of woman, for her dress, home furnishing, and decorations all contribute to develop this sense. Add to this her non-use of tobacco, and we shall see the cause of her uperiority in this respect. Any habit like the use of tobacco, pursued for generations by one sex alone, becomes a permanent *sex-attribute*, and is transmitted to that particular sex mainly. This accounts for the inherited deficiency of the color-sense in the male. Woman's finer quality also gives her a keener sense of Color and its harmonies.

One of the best aids toward cultivating this sense is exercise in the open air. When we contrast the ruddy-cheeked children of the farmer with the poor little pallid-faced denizens of the slums of great cities we know that fresh air has in the first instance contributed both power and beauty. No beauty of form or regularity of feature can compensate for the absence of healthy color, nor redeem a skin pimpled or blotched. A woman possessed of a brilliant complexion has always in combination a purity of blood and vigor of thought and movement, which pallid and colorless persons lack. In my estimation, a fine complexion and good color of hair and eyes constitute the chief beauty of the human race, for so much more is involved and included in this quality than in any other single trait. A good complexion is not made nor preserved by veils and cosmetics. A good color, like religion, comes from within, not from without. A wholesome diet, with plenty of out-door exercise, such as gardening, walking, rowing, bathing, swimming, and skating, will do more toward creating and preserving a good complexion than all the veils and cosmetics in the world.

The color of the face reveals permanent and temporary, as well as pathognomonic, conditions of the system. Each distinct disease is characterized by peculiarities of color of the several features of the face, body, and hands. Physicians recognize this principle and regard color-changes as symptomatic of certain diseased or abnormal conditions. This branch of color will be noted in "Signs of Health and Disease."

A very great confusion exists in the minds of many in regard to the designation and classification of colors of the several complexions. I will here give a description of the colors of the complexion, hair, and eyes, together with their proper designations.

Those persons possessed of fair hair, nearly white, with whitish skin, almost colorless or pinkish eyes, and white or whitish lashes, I term Albinos. Those exhibiting fair or light, golden, flaxen, or yellow hair, with blue eyes and fair lashes, and clear, red and white complexion, I term Blondes. To those who have dark-brown hair and dark-blue eyes and brown lashes, together with clear, red and white complexion, I give the term *Chatàin*, the French designation for this class; there is no word in English to express this type, who partake somewhat of the vivacity of the blonde and somewhat of the intensity, vigor, and depth of feeling of the perfect brunette type. Those in whom black eyes, hair, and lashes are observed, with dark or olive, or olive and red complexions, are denominated Brunettes, and there are as many shades and varieties of these as there are of the blondes. Those who exhibit a combination of light-gray eyes with red and white complexion and fair hair are of the blonde type. Those who have dark eyes and fair hair, with fair complexion, either pale or with some red color, are also of the blonde type, yet by reason of the dark color of the eyes they display some of the characteristics of the brunette. They are a sort of compound, neither blonde nor brunette. These several types of color are found mainly in the Caucasian or white races, and these designations are intended to apply to them. The color peculiarities of other races, such as the Indian or red races, the Negro or black races, and the yellow races can be understood as presenting the same characteristics in regard to color as are disclosed by similar colors in the white races.

It will be unnecessary for me to enter into a long description, however, of the ethnic peculiarities of color in regard to the classification of the human family into white, red, yellow, brown, and black races, nor to discuss *in extenso* the causes which have conduced to create the great diversities of colors observed in various races. Let it suffice us to know that whenever a race exhibits a deep color of complexion, hair, and eyes, that race displays in a most unmistakable manner a love for colors. If it be an uncivilized race, like the Negro or Indian, the color-faculty shows by exhibitions of the richest and most gaudy colors, without regard to taste in their combinations, for good taste in the combination of colors comes with other fine and discriminating traits only to those races which by evolution have reached a high degree of excellence in every direction, especially in the fine arts. The natives of all warm or tropical countries are, as a rule, of dark complexion, and their love of color is shown by their choice of deep-red, yellow, green, purple, orange, and all other bright and showy hues, while the inhabitants of more northerly countries, possessed of fairer complexions, use colors more subdued, and choose more delicate hues, such as pink, blue, gray, drab, and white. Not only do these colors accord or harmonize with their respective complexions, but they all choose quite *naturally* and *instinctively* the colors best adapted to their personal peculiarities. This fact reveals the action of a law which is universal, and so subtle and of such spontaneity as to have escaped prominent notice, on the principle that whatever is common to all and observed from birth fails to make the profound impression which a much simpler matter would create if introduced to one's notice suddenly. The color-sense is so *instinctive*, that is to say, it is so much a part of the real existence, and so thoroughly incorporated with all the elements of mind and body, that one chooses (if untrained in chromatics), without thought or premeditation, the colors and shades which are similar to the colors which are supreme in his own organism. The individual possessed of yellow or molasses-candy colored hair and skin chooses yellowish-brown or tan color, light drabs, and colors which nearly resemble the hues and tints in his or her own person. The blonde, if *untrained* in colors, chooses garments and decorations the colors of which are similar to her own hair and eyes, while the brunette, with olive and red complexion and black eyes and hair, adorns herself in the richest, most vivid, and brilliant hues of red, orange, green, purple, and their several shades and combinations. How often are seen upon the street women with yellowish complexion and dirty, yellow-colored hair clad in light, tan-colored or yellowish-brown garments. These same persons, if educated in color, would choose those colors which *contrast* with their own color, and thus compel the combination of colors to *enhance* their charms instead of depreciating them. Others with light-gray eyes and a grim, gray, colorless complexion will array themselves like "a friar of orders gray," and thus depreciate their appearance, which might be improved by contrasting colors. These instances serve to show the universality of the law of color, and that it is a law of Nature that one is best able to judge of and use colors similar to those within his own organism. The "old masters," the great painters of former ages, were men whose complexion was of a clear, olive-brown and red, with black hair and eyes, or in some rare instances of clear, red and white complexions, and with deep-blue eyes and brown or red hair. The former employed the most brilliant colors, whose power the hand of time has failed to dim. Their works may be seen to-day in the art galleries of Rome, Florence, Milan, Munich, Paris, London, and in other European cities, as well as in the galleries of the nobility and in the collections of private citizens throughout the civilized world. These pictures are representative of the highest style of color-effects ever produced by artists. Not one of those who wrought them was pale, pallid, or lacking in dense color of skin, hair, and eyes. Nearly all exhibited large, round eyes and high, arched eyebrows, and this appearance became more marked by advancing age, and was caused by constantly raising the brow and opening the eye very wide in order to observe the effects produced by the brush, as all artists do in their work. Let the reader observe the portraits of Titian, Rubens, Michael Angelo, Leonardo da Vinci, the three Carracci, Fra Bartolomeo, Van Dyck, Jacob Jordaens, Teniers Giotto, Fra Angelico, Fra Fellipo, Lippi, Hans Holbein, Antoine Watteau David, Vernet, Vanloo, Boucher, Murillo, or any number of eminent painters of every nationality, and he will find that they exhibit fine color of eyes, hair, and skin, as well as symmetrical bodies, for to be able to judge of symmetry and proportion one must possess in his own organization a good share of the very qualities which he would depict.

Lack of color produces not only physical and mental defects, as, for instance, the absence of the color-sense, but also moral deficiencies. Now, very light-gray eyes and nearly all light eyes are indicative of either scrofulous tendencies or weakness of the kidney system, and weakness or deficiency of that system shows a lack of natural integrity, or Conscientiousness. As the moral as well as mental powers depend upon the constitution of the atoms and molecules which compose the cellular tissues of the body, how can it be expected that integrity shall be one of its components if chemical action has failed, in the first instance, to properly blend and harmoniously balance the physical organism? Morality is not a fine-spun, fleecy, cloudy theory of *belief*. Conscientiousness is not an intellectual opinion as to the merits of sundry dogmas which furnish opportunities for discussion in the various channels of speculative belief. It is the very groundwork of our physical construction; it inheres in the chemical or underlying basis of our organism, and depends for its soundness on the purity of the body primarily and afterward on a cultivated and quickened moral sense.

There are many unsatisfactory theories put forth to account for the deficiency of the color-sense. My own ideas on the subject may be useful as far as they go; I know, however, that they do not cover the whole ground. My observations have led me to remark two causes for this defect: First, the lack of foods which contain those elements that produce the kind and amount of color essential to the healthy equilibrium of the organism; that is to say, that in the chemical combination of the food with the blood and tissues there is not sufficient coloring matter mingled to endow the person with the right proportion of color to constitute a strong and decided color-sense; also, there is not enough of color derived from the solar rays. This proceeds from a disregard of sanitary law in pursuing an in-door existence, or a non-assimilation by the organism of these rays in consequence of certain diseased conditions which prevent, for a time, the proper action of the light and heat of the sun. It is well known that sunlight alone will eradicate many diseases, and, as the white rays of the sun are composed of a combination of all the colors of the prism, the curative properties must reside in the colors alone. If this were not the case a heated room would conduce to health as well as sunlight. Experience proves that this result cannot be obtained without the direct rays of the sun. Plants languish and become pale and sickly when deprived of sunlight, and vegetable juices undergo serious chemical changes from being shut off from the action of the solar rays. There are other sources of light and color which are nearly the same in their composition and action as sunlight. Electricity is one of these sources which has a direct bearing upon the health of organic life, and, although many of the laws relating to this force are unknown, still enough of its action has been observed to assure us that a proper amount must enter into the constitution of the human organism to produce healthy conditions.

The second cause is revealed by the investigation made by scientists among those who are color-blind. The large percentage of males who are color-blind as compared to females who lack the color-sense is quite startling in its numbers. The theory of non-assimilation in the organism, by chemical action, of sufficient color to give a correct and just understanding of colors, should teach us how important, in a moral sense, is a due development of color to the human body. The reader will observe in the chapter on sub-basilar principles the reference made to color by the celebrated naturalist, Haeckel, who has observed that the absence of color induces or accompanies abnormal conditions, both in animals and man. He, however, gives no theory on the subject.

Professor Holmgren states that

> Color-blindness is not a disease in the sense of being attended with suffering, obliging the person to have recourse to a physician. Color-blindness, quite as well as normal sight, is a sense of color, though of another and more simple nature. He whom we call color-blind is not, correctly speaking, at all blind to all colors. In the system according to which he arranges his colors he has *fewer* kinds than the normal observer. It results from this that he finds resemblances between colors, or confuses others that the normal observer finds different; for instance, red and green.

A most significant fact in regard to the necessity of coloring pigment in the human organism is shown by its presence in the ganglia of all the sense-organs. It is found in the olfactory ganglia in the retina of the eye, and a coloring matter, called melanine, is abundant in the hair, the iris of the eye, and in the epidermis. This coloring pigment is most abundant in the black and brown races, and less so in the yellow and white races. *It is almost entirely absent in the nervous ganglia of Albinos.*

Color gives power to the passions and emotions, for color denotes heat, power, and vigor, and the deeply-colored exhibit more ardor in love and more strength in hate than those of fairer-colored complexions. The reason for this is that color is a product of the glands and the arterial circulation, and is a primitive or organic quality. Now, the glands are directly concerned in the production of emotions, and some of the glands, the reader will recall, are the bases of Amativeness, Friendship, Mirthfulness, Love of Young, Benevolence, and other traits. Color assists force, and the muscular system in the well-colored possesses more general vigor than the muscles of the pallid person, whose muscles exhibit the same degree of muscular development; hence, force and resistance, as well as all the destructive and combative tendencies, are greater, not only in dark races, but in dark individuals of the Caucasian race, where the grade of development is similar in other respects. It is true that among the dark-eyed and dark-complexioned there will be found persons of as great refinement and purity of life as among the lighter-colored, who possess but few combative tendencies, and exhibit very little force or resistance; yet, *grade for grade*, these very refined persons with dark color will exhibit more vigor of emotion, more intense love for the marital companion, and for children. They will also manifest stronger dislikes than fair people of the same grade of quality.

The emotions of the negroes predominate, as a rule, over their intellects. Even in civilization the negro is almost childishly emotional. Their love for gaudy colors, such as yellow and red, is well known. They have not excelled as artists for the reason that they lack the *quality* essential to such work. The greatest artists are of the white races, but endowed with dense color of the eyes, skin, and complexion.

The color-sense is common to all races, but is less in those inhabiting the most northerly climes. The Laplanders and Finns exhibit less love of color and less talent in combining colors than the inhabitants of more southerly countries. Their country is covered a great part of the year with snow, and in their short summers very few bright-colored flowers and birds are observed; hence, their color-sense receives but little stimulus from Nature.

The color-sense, as I have shown, is essential to life and health. It is therefore general, and has existed in all ages and in all races in varying degrees. The oldest objects of art preserved in the great museums of Europe exhibit many remains of the art of coloring. Not only are specimens of fine colors found in the remains of Greek art, but the potteries of primitive races, viz., the Peruvian, the Egyptian, and the New Zealander, furnish us evidences of the presence of a high degree of the color-sense among them.

A large majority of persons in every community can be taught the art of painting quite easily, for, as I have shown, color is a physiological constituent of man, and a knowledge of its hues and meanings is essential to his protection and safety. Color forms the basis of many trades and professions, and is therefore of great importance to mankind. Yet there are many grades between a *fair degree* of the color-sense and a *genius* for painting. The lowest and most barbarous races exhibit considerable skill in the use of colors, as shown in their personal decoration in tattooing and in embroideries with the quills and feathers of birds, etc. The North American Indians are quite artistic in the use of beads and feathers in their art works, while the Mexican Indians exhibit their capacity for coloring in pottery and other wares.

Color everywhere exhibits power, as I have shown previously. The greatest artists are those who exhibit the most color personally; so the greatest orators are those who are well colored. Daniel Webster, the most eminent of American orators, possessed very dark eyes, hair, and complexion, and many other illustrious orators, actors, and elocutionists are distinguished for the fine, deep color of their hair, eyes, and skin. Color gives the power for zeal, fervor, and enthusiasm, which in geniuses is called the "sacred fire." It is the exciting cause of vehemence, invective, and sarcasm, which so distinguished Mirabeau, the greatest of French orators. I dare affirm that no orator has achieved eminence who had very light eyes and very light hair, and a pallid complexion. No poet or actor has ever been known to fame who lacked the essential faculty of Color, either in his skin, hair, or eyes. The writings of all our great poets teem with descriptions of colors in Nature, and in their delineation of human characters. A poet destitute of chromatic-sense would paint his pen-pictures in a minor key, and would spread a sombre and Quakerish hue over all his scenes; but, if he possess a decidedly strong color-sense, he will impart warmth and vigor to all he writes, whether describing colors or not. It is just the same with the actor, for he who is well-colored imparts force, energy, and enthusiasm to his acting. And the minister, too, is indebted in a great measure to his color for eloquence. I have met a fine musical composer who just missed being a genius through lack of color. He had black eyes and hair and a sallow complexion, and his compositions were mainly in minor keys,—solemn, pathetic, slow, and lacking that *verve* vigor, dash, and vivacity of movement which characterize the compositions of those more decidedly and more brightly colored.

The varying grades and shades of color observed in the different individuals of the artistic classes will mark the several degrees of power and intensity exhibited in their actions and works.

The *meanings* which Nature attaches to color, and by which we must be guided in our interpretations of her signals, are patent to all who have given to the subject any considerable degree of observation or reflection. Black-eyed, dark-skinned persons, with red cheeks and lips, are fervid and intense in all their acts, are capable of great endurance, are tough, and of very strong and decided feelings, and give vent to them and their opinions in most positive and unmistakable terms; with black eyes, black hair, and sallow complexion, are more guarded and reticent, yet feel almost as strongly as the former, and possess nearly as violent passions and emotions. Both these classes are good lovers and good haters, with strong and high tempers. The first class are generally dramatic in their tastes, if of high and fine quality, and possessed of a suitable brain system. There is a great deal of iron in these two classes, and their color is derived partly from the oxygenation of that element in the blood; hence, those in whom this mineral predominates as a ruling element are well adapted to work in iron and other dark metals and substances. Men thus organized gravitate naturally to such work. The proof of this is found in the fact that nearly all of those who work in foundries are black-eyed, black-haired men, with dark complexions; while those engaged in the pattern-making department, where the wooden patterns are made for the castings, exhibit every grade and shade of the light complexions, ranging from the lightest blonde to the *chatàin*. In my investigations in foundries I do not recollect having seen even one very dark person in the wood-workers' department. Blacksmiths, as a rule, are dark-complexioned, or, at all events, very few fair men enter into this field of labor. It has been suggested that minute and infinitesimal portions of iron enter into the system of iron-workers by inhalation, and so affect the system that only those who have already a good degree of iron in their compositions are able to work continuously with this metal, and that the light-haired men are unable to assimilate the amount of iron received in homœopathic doses into the system while thus engaged. How far this may apply I cannot say, but the fact that the darker-hued men are engaged as iron-workers can be proven by all who will take the trouble to look through any number of foundries and machine-shops.

Black hair and black eyes, with a fair complexion, indicates great intensity of the passions and emotions. Hair which presents a bluish-black color, together with a sallow or livid complexion, is associated with passions almost abnormal in their intensity of desire, and this class of characters, when under strong excitement of the passions, are apt to prove dangerous. Love, hate, and jealousy are all strongly developed, and the unrestrained indulgence in these emotions leads to crime. This last combination of color is seldom, if ever, accompanied with fine quality, hence its possessors have none of the restraining influences of refinement.

Black hair, accompanied by eyes which change from black to a metallic red, which glitter and appear to the observer as if they had great depth, are indicative of diabolical and perfectly unscrupulous character. Fortunately, this combination is very rare. I have met with three persons only in my life who exhibited this combination of color. One of these characters was a noted abortionist; another was an infamous debauchee, seducer, and sensualist. The *form* of the eyes, together with the color, must be taken into account. The eyes of the last mentioned were wide from side to side and the vertical measurement not correspondingly wide. They were true "polygamic eyes," like those of the Polynesians.

Blue-eyed women generally are attracted by black-eyed men, and blue-eyed men are drawn toward black-eyed women. If the bodily *forms* of the diversely-colored are not *too much alike* this combination is an excellent one in marriage, but if the respective parties possess about equal proportions of the vegetative, thoracic, muscular, osseous, or brain forms the union would not be desirable on account of the bad effect upon offspring. Black-haired and black-eyed men and women make the most ardent marital companions, and, if possessed of fair or average Conscientiousness, are most steadfast and enduring in their affections. Their passions are strong, and where the quality is coarse they exhibit a great deal of sensuality, but with fine hair and fine, clear skin they evince ardor with refinement, sensitiveness, and sentimentality. A man of criminal proclivities, if black-haired and dark-eyed, makes a more desperate and dangerous villain than a fair man; he possesses more capacity for intrigue and conspiracy, and is more secretive and enduring in his plots and schemes.

Black-eyed, black-haired persons, possessed of a high moral and religious disposition, allied to a good intellect, exhibit tremendous force in these directions, and are noted for the enthusiasm with which they work and incite others to action. John Howard, the world-renowned philanthropist, possessed black hair and dark eyes. His benevolence was only equalled by his power of endurance, which took him to the most inhospitable climes in the cause of suffering humanity. Many distinguished revivalists are men of dense color and corresponding force and energy.

The dark races are not so progressive as the lighter races,—not as susceptible to improvement. Those races which have remained stationary in color—as, for example, the Chinese, the Indians, the Spanish, Portuguese, etc.—are less progressive than the Anglo-Saxon races, who are vari-colored.

It is the same with animals; the least improvable are those who exhibit a single color only of eyes and hair, as, for example, several species of bears, the panther, and some others. The dog and horse are vari-colored, and are capable of very high breeding, and are teachable and progressive. Intermingling of any of the light with the dark varieties of the Caucasian race, in marriage, improves the species; but a mingling of the darker classes of the Caucasian race with dark, *undeveloped* races degrades the species, as, for example, a mingling of the Spanish with the Indian and Negro, or Chinese with Portuguese, or white with the Negro. There is no possible *advance* in mixtures of similar *colors*. The crossing of the white race with the negro produces the mulatto, who are never so strong and long-lived as the original African, nor as mentally gifted and healthy as the white race. Indeed, I have never seen a very aged mulatto. They are usually weak, scrofulous, consumptive, and short-lived. The fusion of white with black is detrimental in every way, while the crossing of dark Caucasians with negroes or Indians almost always creates low, criminal, and brutal types.

A combination of *dark-blue eyes* and *black hair* is often found among the descendants of the Celtic and Celtiberian races,—in the Portuguese, Irish, Welsh, Spanish, and Italians, for example. It produces a rare kind of beauty, regarded from the art stand-point. The disposition associated with this peculiar combination is characterized by an "artless artfulness," by great capacity for intrigue in love, politics, and business, with great apparent candor and sincerity, while the real thought and design are entirely and most skillfully hidden in the innermost recesses. In this combination is seen the depth and power of the black-haired, dark species, with (apparently) the openness and frankness of the light-hued class. Where this combination co-exists with a superior intellect the character will evince great political aptitudes or uncommon skill in planning large commercial enterprises, or will excel in diplomacy and similar pursuits, depending for direction upon the faculties in combination. In women this combination of hair and eyes is often associated with great cunning in love affairs and a large amount of plot and counterplot, of small intrigues and petty trickery of a perfectly useless sort, while the countenance and expressions and voice and manners resemble those of a confiding, artless child. This class of people are usually very charming and engaging in social intercourse, and always deep in love affairs, of which they contrive to carry on several at once. Indeed, plotting and planning seem to be the life of this class. As lawyers, they are astute, secretive, and politic; in roguery, deep and designing; as worldlings, they do not permit society to get the better of them; as parents, they scheme for their children; as friends, suspicious and unreliable; as beauties, often of the highest art-order, with arch (apparently), shy, and vivacious, cunning little ways, which are very taking. When the hair is curly—as it often is with this combination—musical or imitative talent of some sort will be exhibited, as well as lack of integrity. If the hair be coarse the talent and power exhibited will be of a lower order than if it be fine.

Blue eyes, with dark-brown hair and with clear, red and white complexion, and fine hair and skin, belong to amiable, pure-minded characters, with capacity for improvement and progress, usually intelligent and refined, with a moderate development of amativeness and temper; they are more calm than the black-eyed, and evince less jealousy, revenge, and enthusiasm, and can become excellent painters, but will use the more delicate colors.

I have observed great indefiniteness and contrariety of opinion in regard to describing certain colors of the eyes. Many persons term a brown or hazel eye "gray." Now, in using the term gray I apply it to those eyes that are a mixture of *blue* and *white*. The light gray are more *white* than *blue*; the dark gray are more *blue* than *white*. It is essential to keep this discrimination of colors fixed in the mind, else erroneous meanings will be attached to the several colors of the eyes.

Light-gray eyes, with light-brown or fair hair, often disclose mathematical and calculative tendencies, and, with a good brain form in combination, philosophical tastes and capacities. The emotions and passions are not so intense nor so enduring as in those who exhibit darker-colored eyes and hair. This class also possess a selfish, planning, calculative spirit, and evince very little warmth of affection; yet, with Friendship or Benevolence large, will show sympathy and friendship in a sluggish sort of manner, and it will not be so intense and enduring as with the deeper-colored. When the inherited quality is fine a great deal of natural refinement will be present, but with coarse quality the character will be very cold-blooded, unsympathetic, and selfishly calculative. A certain degree of suspicion accompanies the light-gray eye, and greediness, too; jealousy and envy are also very easily aroused, and often without occasion. The mental and moral deficiencies indicated by such lack of color as this peculiar combination discloses are usually accompanied by grave physiological defects. There is likely to be congenital weakness of the kidneys or of the generative system; a lack of the color-elements in the blood and tissues prevents that *integrity* or *soundness* of organization which a normal degree of color produces. The physical defects may not become apparent until the age of puberty or later, when some pathognomic crisis reveals them.

Very light, almost colorless eyes and hair and colorless or pallid skin denote weakness, generally of a scrofulous or consumptive tendency. This color is often accompanied by weakness of vision, deafness, eruptions on the skin, and white swellings of the joints, as is the case with Albinos. Those with these indications should never intermarry, as the result to offspring would be highly disastrous. The mentality of this class is never of a very gifted character. They are, from the very quality and conformation of their organs, weakly. Their minds partake of this enfeebled condition. They are generally surface people, like the pure blondes. They have little sympathy for others, and are much absorbed in the adornment of *self*. They can never become good colorists in the arts and industries. This type of people would soon die out if intending parents would abide by physiognomical laws, and cease to perpetuate this almost helpless and useless species.

Flaxen hair and blue eyes indicate impulse, affection, quickness of apprehension, sensitiveness, taste, purity,—if the hair be fine,—and, if wavy or curly, a degree of imaginative ability. Many poets exhibit this combination. Where the hair is fine the manners will be gentle and refined, and tastes delicate. As a rule, this class does not exhibit great endurance or ardor.

Sandy hair, if coarse, denotes grossness and very ordinary abilities. If the hair be fine, delicacy of feeling and impulsive action will be exhibited. It is not usually an indication of as great longevity as the darker hues. The same may be said of all the very light shades of hair and eyes.

The dark-gray eye, in combination with black or dark-brown hair and lashes, is usually accompanied by talent of some sort, and denotes coolness, with considerable intensity of feeling and devotion to purpose. With a clear, fair skin and fine quality, the character will be refined and energetic.

Red hair and dark-chestnut eyes reveal great intensity of feeling, secretiveness, and capacity for plotting. If the quality be fine, we may look for considerable natural intelligence, refinement, and ambition; but, if the hair be coarse, strong animal passions, insincerity, and a common order of mentality are indicated.

Red hair and blue eyes (if the quality be fine) denote ardor, impulse, sincerity, purity, quick temper, ambition, and, if the hair be wavy or curly, considerable imitative talent,—æsthetic, poetic, or dramatic. If the hair be coarse, sensuality, lack of refinement, and strong passions will be exhibited. Red-haired people of every grade are aspiring and ambitious, and may be found in positions of authority, such as superintendents, teachers, overseers, foremen, and directors. There is, doubtless, more sulphur in the composition of red-haired people than in other types. It is this mineral which gives clearness to the skin and color to the hair.

Auburn hair and blue eyes denote tenacity of purpose, ardor, warmth of affection, and strong emotions; with fine quality, are intelligent and capable of progress.

Dark-red hair denotes (if fine) strength, vigor, and virtuous inclinations, with strong, stable emotions and deep affections. If accompanied by blue eyes, frankness, purity, and noble aspirations are indicated; if brown eyes are observed in combination, the character will evince more secretiveness and capacity for scheming and planning. When the hair and skin are coarse, with the above colors of hair and eyes, the animal passions will be strong, and a great deal of low cunning and trickery will be exhibited.

Yellow-eyed people, with brown, yellow, or fair hair, are deceptive, suspicious, cruel, and jealous; with dark hair, are revengeful and low. I have never observed any one with yellow or greenish eyes who exhibited great mental powers. It is a sign of inferiority, and if this colored eye is oblique in shape, like that of a cat, the disposition is tricky and treacherous, as exhibited by the Mongolian and other bias-eyed races. This class may show considerable sympathy toward others, owing to the warmth imparted by the amount of color, but it will not be accompanied by consistency, sincerity, and truthfulness. *Yellow and greenish eyes* are found in the most sly, treacherous, tricky, cruel, and deceitful animals, such as the panther, the hyena, the leopard, the puma, the fox, and cat.

Mixed, mottled, or spotted eyes show a mixture of blood—a crossing of two or more distinct races—within two generations. This is an infallible law of physiognomy. Crossing usually produces talent or improvement of some kind, but at the same time induces jealousy and suspicion, secretiveness and insincerity, particularly if the eye is spotted with yellow and green. It seems as if the opposing elements of the blood and tissues had not fused or harmonized. After two or three generations the eyes of offspring become uniform in color, and more *trueness* is exhibited.

The normal distribution of red color in the human face and body is found in the cheeks, chin, and lips, very slight in the nostrils and eyelids, but where it exceeds a certain degree of delicacy in the eyelids it is a sign of abnormal or inflammatory conditions. The ears, also, should present a clear pink or red appearance, and, when the skin is thin and the nervous system sensitive, the ears will always appear well colored, if health be present. The outer part of the palm of the hand should present a bright-red color. A vivid color in this part of the hand is a great beauty, and, with a fine skin, denotes extreme sensitiveness to all external influences and a keen mentality. The whole of the inner surface of the hand and fingers should exhibit a red or pinkish color, and, if the skin be fine and thin, the veins at the root of the thumb will be quite distinctly traced. The extremities of the toes possess color, also the entire plantar surface of the foot, except the hollow arch between the toe-joints and the heel, which is lighter colored than the surrounding parts. Excess of color in the lips, cheeks, chin, and eyelids denotes feverish or inflammatory action, and is symptomatic of the different diseases, according to the feature in which the color is excessive. The color in the cheeks in youth is most decided in the *lower part*, extending in some cases down onto the neck. As age advances it rises higher, and often appears upon the cheek-bones. The great mistake which those who use cosmetics make, in applying rouge to the face, is in placing it upon the *upper part of the cheek* in their endeavors to look more youthful. Now, in doing this, they show utter ignorance of Nature, as well as of art, for art professes to be an imitation of Nature.

In the foregoing description of the significance of the several colors in the human race the meanings of the several *forms* of the eye have been omitted; they will be found in the chapter on "The Human Face." The reader can make the combination of Form with Color for himself, and, like an example in arithmetic, he can "sum it all up together." Sufficient has been shown, however, to prove that we cannot ignore the fact that a defect in the chemical combination of the materials composing the human organism induces diseased conditions of the several systems and functions, and, as a consequence, diminished mental activities and moral power and proclivities. Color is a chemical effect produced by a variety of causes. It is essential to our mental and moral welfare that the right proportion of color should be mingled in our food in the natural way, and that we should obtain from the sunlight sufficient of its color chemically combined in our organisms to produce moral, mental, and physical harmony, without which mankind cannot be moral, healthful, or perfectly balanced. The cultivation of the color-sense should be commenced in childhood and continue through life. We cannot know too much about Color. Let children be taught first from Nature and their every-day surroundings; then, gradually, as their minds can grasp it, teach them experimentally the scientific production of color, its use, meanings, and importance to man, bird, beast, fish, insect, and to the entire universe.

SANATIVENESS.

Definition.—Sanativeness is derived from Sanative, which, according to Webster, is "having the power to cure or heal; healing; curing; having the tendency to heal." The scope of this faculty is wider than this, and means also Health, Love of Life, the natural doctor, nurse, and healer; tenacity, endurance, and good recuperative powers. Large Sanativeness gives the capacity to impart health to others by advice, nursing, and manipulation; with a good mental system in combination, natural qualifications for medication or surgery will be manifested.

An *excess* of this faculty is not to be avoided.

Deficient Sanativeness leads to premature decay and early death. It unfits one to cope with disease and renders one incapable of treating or healing the sick. It deprives one of a strong love of life, thereby rendering the individual incapable to a great extent of resisting disease or injuries.

The signs of deficient Sanativeness are various. The most prominent facial signs are narrow and long, thin face; hollow cheeks; small, depressed nose and pinched nostrils; narrow head and sunken temples; narrow and receding chin; a bluish, sallow, pallid, or transparent complexion. The bodily signs are shown by long, slim neck; narrow and sloping shoulders, sunken chest, flat abdomen; thin, flat muscles and small bones; long, thin, flexible, and transparent fingers. Some persons exhibit several of these signs, while others disclose all of them.

Facial and Bodily Signs.—There are many types of the human family in which the faculty of Sanativeness is apparent, but its signs are the same in all ages, sexes, and races, making allowance, however, for the differences in size and racial forms.

The general facial signs are as follow, viz., relative breadth of the forehead, full temples, breadth of face outwardly from the eyes and just below them (this is one sign of the natural doctor, nurse, and healer), high and broad nose, broad nostrils, full cheeks, full lips, broad chin, healthy color, clear skin, and bright eyes. The bodily signs are shown by relative width of shoulders, good-sized neck, high chest, round muscular body (or a well-proportioned one), full muscles, strong bones, and full abdomen.

DESCRIPTION OF SANATIVENESS.—Sanativeness is a term which well expresses the power for healing and the quality or state of healthfulness. This quality includes love of life, together with a tenacious clinging to life and a determined resistance to the encroachments of disease. The same condition which causes health gives the capacity to impart health to others in several ways, among which may be mentioned intuitive comprehension of bodily states and changes of conditions and assistance by suggestion of hygienic measures, by hand-rubbing and manipulations of the body, by administering remedies which experience and study have taught as suitable, and by surgical aid, which is in some a *natural gift*, yet which the majority of surgeons are obliged to learn by experience. That surgery is a natural gift in some families is well known. The celebrated Sweet family, of Milford, Connecticut, were "natural bone-setters," and this talent was exhibited in several generations. Even the children of the family evinced a remarkable faculty for setting bones, and showed their skill, I am told, by practicing upon cats and other animals, first dislocating their joints and then replacing them as a playful experiment. Thousands of persons, without instruction, are capable of nursing the sick, and show a genuine love for this profession, and when this class of persons add systematic, scientific training to their natural aptitudes they are most successful in relieving and curing the sick. Natural healers (and there are quite a number of persons with this gift in every community, known and unknown) delight to exercise their healing gifts upon those afflicted with disease, by spontaneous manipulations of the body and limbs. This phase of the faculty of Sanativeness is common to many species of animals, as has been noted by naturalists, many instances being related by them of the

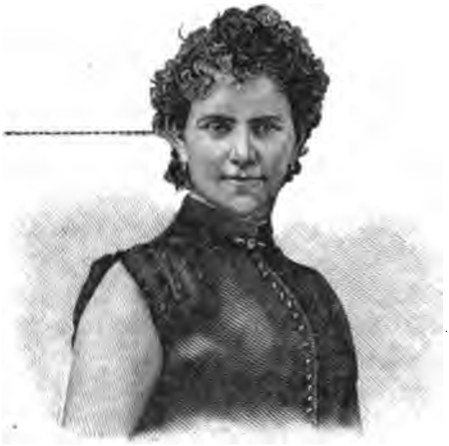

FIG. 48.—DR. NELLIE BEIGHLE. (MAGNETIC HEALER.)

Born in America of Scotch parentage. Principal facial sign, Sanativeness. The law of the curve and straight line governs this face. This physiognomy expresses the highest degree of ability to heal by manipulating the limbs and the body. The power which this lady exhibits for diagnosing diseases may well be ranked as a "seventh sense." She seems to be a perennial fountain of health, and is probably the most gifted healer in the world. To a strong domestic nature she adds a love of art and music, her fine muscular endowment giving this capacity. Her complexion is clear red and white, and her bodily vigor remarkable, a debt she owes to the good oatmeal porridge of her Scotch ancestors. The signs for Amativeness, Love of Young, of Home, and of Country are large; so, also, are the signs for Benevolence, Hospitality, Friendship, Mirthfulness, Color, Approbativeness, Firmness, Self-esteem, Modesty, Human Nature, Analysis, Hope, Constructiveness, Form, Size, Ideality, Language, Music, Time, Self-will, Prescience, and Intuition.

methods used by brute creatures to restore their health and that of others of their kind by assistance in simple surgery—sympathy, shown by assistance of various kinds—nursing, bringing food to those disabled, etc. Not only do various species of the higher animals assist each other to regain their health, but they have in many instances acted as nurses and guardians of helpless or drunken masters, saving their lives from fire, and by calling attention to their masters while in fits, or who had fallen into ditches, or who were exposed to the danger of fire, etc.

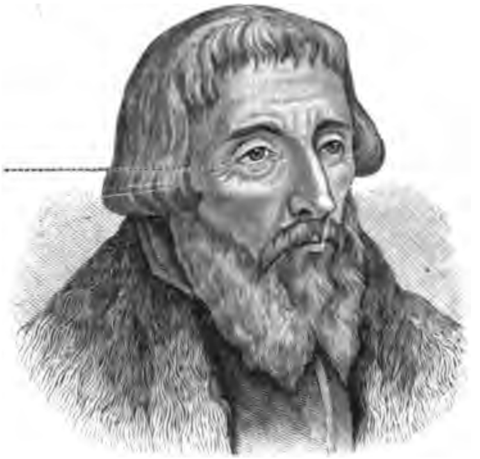

FIG. 49.—PIEATRO ANDREA MATTIOLI. (PHYSICIAN, AUTHOR, BOTANIST.)

Born in Italy, 1500. Principal facial sign, Sanativeness, shown by prominent malar bones, projecting eyebones (sign for Observation), width between the eyes, balanced condition of all the features. The law of the straight line and square governs this face. Physicians, like poets, are born, not made by education. The physiognomy of Mattioli is proof, in this instance at least, of the above statement. The signs for Conscientiousness, Firmness, Love of Home, Love of Young, Bibativeness, Amativeness, Benevolence, Mirthfulness, Friendship, Color, Modesty, Cautiousness, Pneumativeness, Hope, Analysis, Human Nature, Mental Imitation, Constructiveness, Ideality, Veneration, Self-will, Form, Size, Observation, Locality, Language, Order, Reason, and Intuition declare this to be the physiognomy of a first-class mind. Earnestness, Love of Truth and of Knowledge are perceptible, while the signs of the healing power and capacity are most apparent.

All human experience points to the fact that Sanativeness, or the faculty which sustains and restores health, is a normal and primitive function, being common alike to man and the brute creation. Indeed, we may go to the lowest forms of life, to the vegetable, and to the crystal in the mineral kingdom, and we shall note the fact that even plants and trees possess the power of self-healing, when injured, and some crystals, by time and a proper environment, assume again their natural forms when violence has changed them. Wholeness, soundness, normalcy and healthfulness are ordinances of Nature, without which neither man, animal, nor plant could survive the slightest wound or disorder. The healing power must reside within; it does not exist in the apothecary's bottle. Like true religion and true morality, it is a component of man by Nature. This truth should teach us the religious duty of making the body sound by all reasonable methods, in order that our offspring may inherit the tendency to Sanativeness.

The faculty which presides over health and healing, and which gives a love of life, is related to all the primitive faculties primarily, and to all the higher or mental faculties secondly. Those in whom this function is well represented eat heartily, breathe well, sleep profoundly, enjoy exercise, and in all ways attest that health, vigor, and a sound constitution are the most priceless possessions of the human family. We can only give that which we possess, and those who have a large degree of Sanativeness are best able to impart the same to others, by advice, personal service, or skillful medication. The long, narrow-faced, narrow-chested, narrow-shouldered, juiceless, sapless individual has no health to impart, hence is to a great degree a useless cumberer of the earth. The sight of such should be a lesson in physiological religion to all beholders, and a warning to intending parents to build up their own constitutions by gymnastics and diet, before presuming to become the constructors of other human beings.

The love of life and enjoyment of the mere fact of existence is strongest where Sanativeness is best developed, and parents by transmitting to children sound and healthful bodies endow them with a fortune above price. Not only does it give zest and inspiration to life and its occupations, but it enables its possessor to recover easily and quickly from sickness, as well as to endure hardships and prolonged strain upon the constitution without permanent injury,

If Sanativeness were not a primitive function, it would be impossible for the sick to recover and be made whole. Nature has instituted certain laws and processes which are self-operative, by the exercise of which self-healing is set in action, and when sickness or injuries have changed the normal condition of healthfulness the reparative methods of Nature at once take up the work of restoration, and unless the subject is injured beyond the power of Nature to repair this process goes on until perfect health is regained. This process, designated by the ancient medicos as *vis medicatrix naturæ*, or "the healing power of Nature," is dominant throughout Nature's broad domain. Plants and animals are healed by this all-pervading law, and in many sections of the country remote from physicians man relies wholly upon this beneficent provision of Nature, and thus escapes many ills which too much medication inflicts upon those who are so unfortunate as to be treated by an ignoramus posing in the guise of an M.D., made such, perhaps, by the possession of a regular diploma alone, and not endorsed by the hand of Nature. All *true physicians* are born with the capacity, instinct, and love for the healing art. Scientific physiognomy teaches us how to discover those upon whom Nature has set her seal, and shows to whom *she* has given credentials of fitness for the highest and holiest office within her gift. "The healing of the nations," by direct means, requires, above and beyond all other arts and sciences, the most skill, the highest natural fitness, and the most conscientious conduct. We may be able to exist in great comfort, and listen to singers out of tune, or to poets whose rhymed measures halt and limp, or gaze upon pictures that fail to convey a meaning, without being greatly injured; but when sickness assails this mortal frame, then it is that the utmost skill, wisdom, and almost superhuman knowledge is demanded to restore us to our wonted health, and this result requires the highest powers of mind, or (as in the case of natural healers) a suitable physical endowment.

There are four general and distinct classes of those who possess the power of healing, viz., natural physicians, natural surgeons, natural nurses, and natural healers. Each class is distinguished by facial and bodily peculiarities of structure which, once understood will always reveal the class to which each belongs. Each of these classes has its subdivisions. Some surgeons, for example, are best adapted to repair injuries to the bones; others have a special gift in treating injuries to the eye, ear, or abnormal states of the viscera, removing tumors, etc. All these differences of taste and capacity manifest themselves in the practice of every surgeon, as well as in his face, showing in each case that Nature has especially endowed certain persons with the talent essential to restore all of the various parts of the human organism. It is the same with physicians; some have a natural aptitude for treating a certain portion of the body, or are most successful in some special department, thus evincing that Nature has provided in every direction for the restoration to health of all her suffering children. There is also great diversity of taste and talent exhibited among natural nurses, as among physicians and surgeons. Some are led by natural aptitudes to attend to sick children exclusively, or to diseases of women solely; while others have more skill and insight in nursing surgical cases; others still excel in treating fever patients, thus proving that if ill health assumes a Protean aspect, Nature has endowed humanity with characteristics sufficiently varied to relieve them all.

In all communities, civilized and uncivilized, are found persons of both sexes, to whom Nature has imparted the gift of healing by different methods of hand rubbing and manipulation of the body and limbs. Doubtless many of these beneficent beings have, in former ages, been persecuted as witches and magicians; but in this more enlightened age, when inquiry is not obstructed by penal enactments, we are able to investigate the peculiar virtues of this useful class of people, and to avail ourselves openly of their capacities.

These two general classes of healers, viz., the magnetic and the electric, are suited to the requirements of differently constituted patients, some of whom need vital electricity, while others demand magnetism. As a rule, patients need the sort of vitality opposite to their own. Scientific physiognomy gives the only method by which these classes of persons can be known and classified.

The magnetic healer is known by a predominance of the muscular system, while the electric healer discloses the supremacy of the nervous, or the nervous and mental systems in combination. The latter class possess, in many cases, wonderful insight into physical, moral, and mental disorders, and if, as it sometimes happens, they are not able to aid with the hands, are very competent to give advice as to treatment, foods, hygienic habits, etc., which are highly beneficial. All true physicians, surgeons, nurses, and healers possess in varying degrees intuitive insight in sickness, which enables them by a process of divination, if I may so term it, to comprehend existing conditions, and thus they are able to promote health by applying the best remedy to the case in hand. This gift is augmented by study and experience. The more intuition a physician possesses the greater is his power to diagnose a disease, and this fact has been used by quacks and mere college-made doctors to impose upon patients by the assumption of extraordinary occult or mystic powers in this direction. So precious is health, and so eager are the sick to become well, that, like drowning men, they seize upon every straw of comfort they can get in the way of relief, and thus it is that many resort to quacks and charlatans, or to dangerous patent remedies. Like many other of the good things of life, we value health more after we lose it than while we possess it. Natural remedies, such, for example, as rest, diet, abstinence from food in certain cases, sea-bathing, judicious

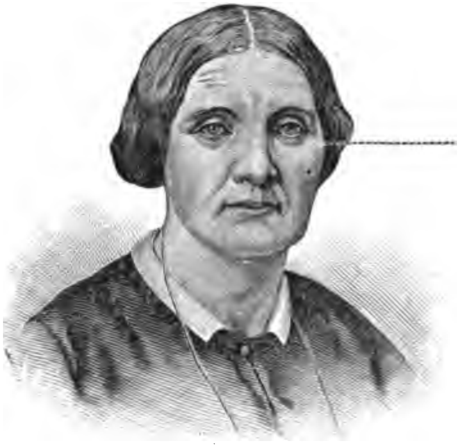

FIG. 50.—"MOTHER" BYCKERDYKE. (ARMY NURSE AND PHILANTHROPIST.)

Born in Illinois. Conspicuous facial sign, Sanativeness. The law of the straight line and square governs this physiognomy. This tenderly sympathetic face discloses all the signs of a great and self-sacrificing nature. Conscientiousness, Firmness, Patriotism, Benevolence, Economy, Love of Home, Love of Young, Modesty, Friendship, and Approbativeness are most decided; while the faculties of Analysis, Hope, Sublimity, Veneration, Executiveness, Locality, Language, Memory of Events, and Intuition are excellent.

exercise, gymnastics, remedial foods and drinks afforded by vegetables and herbs, are the best aids to preserve and restore health. When these fail, then recourse may be made to physicians, medication, nurses, and healers. Most persons respond easily to these natural methods of regaining health, and the more they rely upon them and persevere in an intelligent manner the better it will be for them, for health is the *normal condition of all;* and when one seeks the aid of natural remedies he acts in conjunction with other natural laws, for all of the laws of Nature work in harmonious agreement.

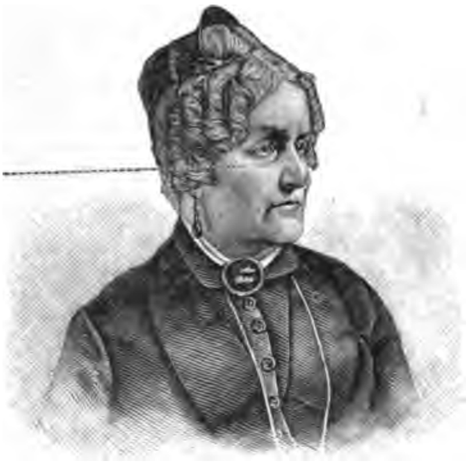

FIG. 51.—CLEMENCE S. LOZIER. (PHYSICIAN AND REFORMER.)*

Born in New Jersey, 1812. Conspicuous facial sign, Sanativeness, shown by breadth of face outwardly from the eyes and just below them, full cheeks; good, fresh color of the complexion, clear skin, bright eyes. The law of the straight line and square governs this face. The force of character exhibited by this lady was of that quiet, gentle, persistent sort which, when allied to great mental and moral gifts, as in her case, leads to success. She was quite a noted reformer, having been one of the staunchest supporters of the woman's suffrage cause. In the face of great obstacles she obtained a medical education and established the Woman's Medical College of New York, and became its first Dean. The signs of Conscientiousness, Firmness, Economy, Love of Home, Mirthfulness, Patriotism, Love of Young, and of Hospitality are well defined. The mental signs of Analysis, Hope, Human Nature, Constructiveness, Form, Size, Color, Veneration, Reason, Prescience, and Intuition are large. Altogether an earnest, gentle, wise, and womanly woman.

An ardent love of life is one phase of the faculty of Sanativeness. Those endowed with a high degree of health and a sound constitution naturally enjoy existence more than do those who are feeble by nature; hence they will make greater efforts to recuperate, and do so more readily than those who are life-long sufferers by disease.

Longevity is still another attribute of this faculty, and the physiognomies of all aged persons show most of the signs for Sanativeness. This grand primal faculty has many phases and aspects, thus disclosing its breadth of scope and its relation to all the life-giving and life-sustaining powers. Its base is broader and more important than any other function, for it embraces many of the others in its operation, as it is related to respiration, digestion, and secretion, as well as to the muscular and bone and brain systems.

After reading the above exposition of this function and its associated faculties, can one doubt its direct influence upon our moral nature? How important, then, its cultivation!

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* This cut by permission of editor of "History of Woman's Suffrage."

The restorative powers of animals are manifested in a greater degree than in civilized man, and they also exhibit in many cases an intuitive or instinctive knowledge of the remedial powers of certain herbs, of rest, and diet. They also evince considerable ability in surgery, often practicing it upon themselves, and assisting each other. Cats and dogs understand the virtue of certain plants, which they use either as purgatives or emetics according to their requirements. The buffalo, camel, and horse use salt for the purpose of promoting health. The "salt-licks" of all countries are resorted to by various animals for this purpose. The chimpanzee and other apes are known to staunch their bleeding wounds by using their hands to compress them, or by stuffing grass and other things into the wound to relieve themselves (Livingston). Many animals lick their own and other's wounds and sores, thus cleansing them in order to facilitate healing. A dog has been known to perform a surgical operation upon a cat by excision of its tail, which had been partially cut in two. The dog *bit* off the end, and thus relieved his feline friend (Lindsay). Many animals take the orphaned offspring of other animal species and nurse them at their breasts, and do a parent's part by them. Dogs and elephants have nursed and cared for injured and sick men and children, and have saved human lives, by their acuteness in scent and sound, from drowning and fire, and in a thousand ways they attest that the principle of Sanativeness in all its phases is possessed by various animal species.

Longevity in animals is disclosed by the same general signs as in man, the long, slim-necked giraffe living a relatively shorter life than the round, muscular tortoise, or the broad-built elephant. In short, animals possess in common with man, in varying degrees, *all* the phases of Sanativeness, and which they manifest, as he does, by both mental and physical acts and means.

If the love of life were not a universal and dominating trait, both men and animals would "shuffle off this mortal coil" upon the slightest provocation. Suicides are committed by animals from the same causes which induce men to commit them. Man must have within himself a great restraining influence, else very few would stand up under the innumerable disasters, trials, and sufferings to which nearly all mankind are subjected. It requires great heroism oftentimes to exist. The love of health is the next strongest desire of the human heart; longevity or length of days another great human desire. Then follows the yearning exhibited by so many to save life and health by personal service, advice, and medication. All these traits are but phases and manifestations of one fundamental function and faculty which I have included under the comprehensive term, Sanativeness, from *sanative*, "having the power to cure or heal; healing; curative; having the tendency to heal."* From this condition of the body all the other phases and aspects of the faculty follow, viz., the power to assist others in sickness, the love of life and health, the dread of pain, and longevity.

The facial signs of the physician are varied and numerous, because this profession requires very superior and varied character. None should enter its ranks unless specially qualified by Nature for this work. One general sign observed in the physiognomies of physicians, and nurses as well, is a prominence of the *bones* of the cheek, about one inch outward from the outer angle of the eye, and also just below the eye. The other signs found in combination will decide whether the talent is for nursing or doctoring. The physician must possess a good brain system, such as would enable him to take a comprehensive course of study, with large Practicality to enable him to apply it. The shape and size of the nose will give this information. He must have fair Caution, large Reason, Analysis, Observation, Intuition, Self-will, Firmness, Self-esteem, Conscientiousness, and sufficient Secretiveness to enable him to keep a *close mouth* and *command* his *facial muscles*. He must possess fine social and domestic traits, such as Friendship, Hope, Mirthfulness, Pneumativeness, Love of Young, Benevolence, sufficient Amativeness to enable him to be tender and considerate of women, and good health and a vigorous constitution. He requires also fine Ideality to give refinement, large Constructiveness, plenty of Force to give courage while performing difficult operations, together with a high sense of honor and morality. In short, a physician should possess a high and well-balanced, harmonious organization of body and mind, if he would attain the highest success in the healing art.

The surgeon needs many of the foregoing traits, but with larger Form, Size, Constructiveness, Force, and Resolution, as well as great physical courage and mechanical ability. Nearly all superior surgeons exhibit large muscular development; that is, the muscles must exceed the bones in order to give strength and suppleness, without large size of the hands and fingers, which are round, flexible, and inclined to taper; hence surgeons are round-built men, with broad, rounding heads, broad shoulders, deep chest, and a strong and not an oversensitive nervous system. This profession requires a combination of the brain and muscular systems predominant.

All natural nurses exhibit the facial sign about the corner of the eyes, and manifest a desire to be with the sick, and exhibit their skill in their treatment. They should have a good, vigorous constitution; large Caution, Hope, Mirthfulness; not too much Loquacity, yet enough to interest and amuse the invalid; large Pneumativeness, to detect odors and atmospheric changes and qualities; good Conscientiousness and Firmness, to give decision and perseverance without being rigid or severe; good Alimentiveness, to enable them to eat well and be able to choose and prepare suitable foods for the sick. A nurse may possess either the bone and brain systems, with a good degree of the vegetative, or a combination of the muscular and brain systems dominant.

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* Webster.

Natural healers are, as before stated, usually found with the muscular or nervous systems dominant; yet I have known some very good healers, who combined nursing with healing qualities, in whom the vegetative and muscular systems were supreme. Healers acquire, by long and continued practice, a sensitiveness of the sense of touch and temperature which enables them to locate a disease by the sense of touch, aided by intuition. The diagnoses of some of this class are truly phenomenal. Healers should possess the best of health and sound constitution, moral principle, and large Friendship. In their efforts for the sick they are too apt to overdo, and thus break down early. They should bear in mind that vitality is limited, and endeavor to conserve their powers by plenty of rest and a good deal of *fresh air* and *sunshine.* These are indispensable to those who would retain healing powers unimpaired for years.

SELF-ESTEEM.

Definition.—Self-respect, independence, true pride, dignity, decorum, self-reliance, nobility, self-control, love of leadership, selfhood, elevation of character.

An *excess* induces intense egotism, insolence, haughtiness, tyranny, and an overbearing assumption of superiority.

A *deficiency* tends to lack of dignity, want of self-reliance and true independence, with little, if any, ability to lead or command.

Facial and Bodily Signs.—The principal sign for Self-esteem is length of the upper lip. The principal bodily signs are an erect carriage, a high head, erect shoulders, chin carried slightly forward, and feet turned well outward. Those with short, upper lips have relatively less Self-esteem than those with a long upper lip. The length of the upper lip also indicates (if the color is well defined) the strength of the spinal column and strength of the vertebræ. It leads the individual to carry himself with a vigorous and independent bearing; and as mind and body always act in unison, Self-esteem and a very erect carriage are the results of the integrity of the bony system, which is also manifested by a strong and straight vertebral structure. See the portraits of Admiral Farragut, Herbert Spencer, John G. Whittier, and others.

DESCRIPTION OF SELF-ESTEEM.—The limbs of those possessed of large Self-esteem are long and straight; the fingers long and bony. Self-esteem originates in the osseous system and is best develbped in those in whom this system is dominant.. The length of the bony structure of the upper jaw gives the facial sign, and this indicates its source or base. By virtue of the same logic we find that stiffness and strength of the vertebræ, or bones of the spinal column, and an erect carriage of the body and head are among its bodily indications. When the osseous system is strong, well developed, and sustained by the perfection of the digestive functions, there is evolved such vigor of the mind and of the most solid and enduring parts of the body as leads to Self-esteem, love of leadership, self-reliance, dignity, and elevation of character. The reader can convince himself very readily of the reliable and unyielding nature of bone, and of its ability to impart firmness, solidity, and dignity to character, by comparing the stature and lives of Washington, Jefferson, or any other men possessed of very long and square bones, with the personnel and character of any short, fat, squat individual, and he will become convinced of the reliable nature of bone when exhibited in man or animal.

This trait imparts ability for enduring and overcoming one's own weaknesses as well as the opinions and weaknesses of others. In disease, it assists in sustaining the patient in a measure and leads him to rely upon his own efforts and self-control to promote recovery. It is a grand force in a character, in a *normal degree*, but where a large excess has been transmitted and unduly exercised it is a perversion, and the most offensive egotism, haughtiness, contempt, and tyranny take its place, and thus weaken and make despicable the character exhibiting this perversion. Insane asylums contain many characters whose unbalanced or excessive Self-esteem is most marked, and they announce themselves to visitors as "Jesus Christ," or "Queen Victoria," or "Napoleon Bonaparte," or some other celebrated character, with all the earnestness of truth.

The position of the facial sign of Self-esteem is worthy of analysis. It is dominated by the sign for Modesty, which cuts a channel through the centre of the upper lip and seems intended to tone down the haughty assumptions of a too-excessive egotism. Just above it stands Hope, to cheer and lead upward a strong selfhood, without which it would be content with mere self-contemplation; while above it are all the traits which disclose artistic, literary, and musical ability, grouped together to attract the character toward active labor in those directions, and thus give a real foundation for true pride in meritorious achievement; while Amativeness and Love of Young each develop feeling toward others, which modifies somewhat the constant thought of self-importance; for each of these sentiments demands recognition and sends out to children, lover, and husband a share of attention, and thus tends to draw off the mind from too much self-contemplation and self-glorification,—a condition which would be the natural result did not mental tastes and desires, as well as domestic sentiments, arise to prevent the character from becoming entirely absorbed in contemplation of itself.

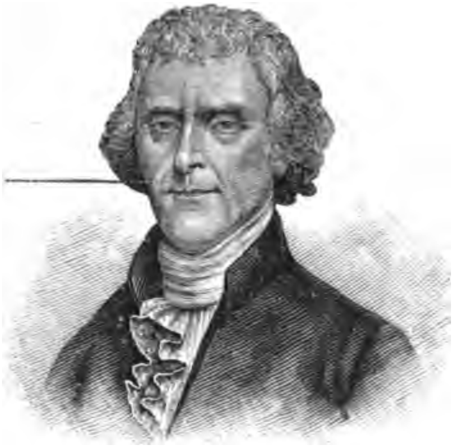

FIG. 52.—THOMAS JEFFERSON. (STATESMAN, REFORMER, AND PRESIDENT OF THE UNITED STATES; AUTHOR OF THE "DECLARATION OF INDEPENDENCE."

Conspicuous facial sign, Self-esteem, shown by length of the upper lip. The law of the straight line and square governs this face. Elevation of mind is the dominant characteristic of this noble character. A developed vegetative system gives a firm foundation upon which is built a broad and lofty mentality. The signs for Firmness, Conscientiousness, Patriotism, Love of Home and of Young are most marked. The height, length, and width of the nose announce a marked and vigorous mentality. The signs for Human Nature, Analysis, Constructiveness, Mental Imitation, Sublimity, Veneration, Executiveness, Self-will, Observation, Memory of Events, and Reason are all large. His stature was tall and commanding and quality fine.

In many characters who exhibit an excess of Self-esteem, a certain trait or several traits are observed to be relatively feeble; either Love of Young, Amativeness, or else a poor development of artistic or literary tastes and capacities will be observed. Those who possess an inordinate degree of Self-esteem seem often, in their offensive assumptions of superiority, in many directions to be insane. They carry this egotism and hauteur to such lengths as to lay themselves open to the charge either of insanity or of acting a part. Indeed, excessive indulgence in this self-feeling often brings on morbid states of mind, which, if not checked, induce insanity. The "sublime self-sufficiency of Swedenborg," for example, is a matter most interesting to physiognomists, for when his portrait is examined scientifically the faculty of Self-esteem will be found second only to the faculty of Credenciveness, and both were abnormally developed. Indeed, the physiognomies of all great founders and leaders of religious and other reforms, disclose the signs for Self-esteem most decidedly. Observe the faces of George Washington, Thomas Jefferson, Garibaldi, Kossuth, Lamartine, Admiral Farragut, John Bright, Lucretia Mott, and John Wesley.

This trait assists the character in the *self-assertion* and *positiveness* required for domination. Confidence in one's self inspires confidence on the part of others, hence it is that quacks, so-called prophets, and miracle-workers secure a large following and great pecuniary profit. Self-assertion, bombastic pretension, coupled with a claim to supernatural powers, is always sure of success. History records many who were monomaniacs whose confidence in themselves led them into all sorts of extravagances, as well as their deluded worshipers. Joanna Southcott, who flourished in England in the seventeenth century, was one of this sort. No doubt she was so inflated with Self-esteem and her own importance that she sincerely believed herself to be what she professed, viz., the bride of Christ. Her portrait exhibits the signs for Credenciveness and Self-esteem large. These are also very marked in the physiognomies of Mahomet, George Fox, Brigham Young, Martin Luther, and Calvin. The portraits of all successful generals exhibit a more than average degree of Self-esteem, and the physiognomies of the leaders in all great enterprises show the same. In all such affairs it is very essential that the individual should have confidence in his own powers, and then be able to *inspire others* with confidence in *himself*, and this the natural leader will do in the most spontaneous manner. Among children, the one who possesses the most

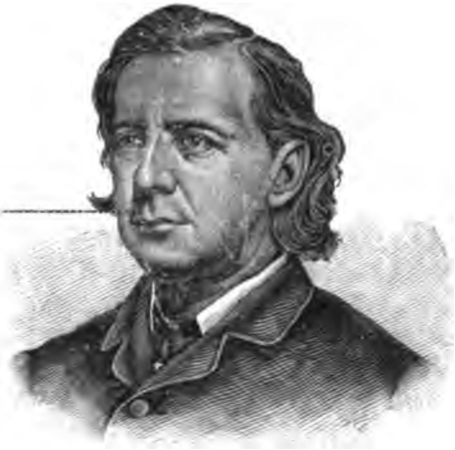

FIG. 53.—HENRY WARD BEECHER. (AUTHOR, EDITOR, ORATOR, PREACHER, REFORMER.)

Born in Connecticut, 1813. Conspicuous facial sign Self-esteem. The law of the straight line, square, and curve governs this countenance. This portrait of Mr. Beecher, taken in early life, expresses great power. Along with a fine and strong vegetative system are seen the signs of moral and mental capacity; the wide, straight mouth and full eyes announce the orator, while the large size of the nose and its length give the clue to his great mentality. The signs for Conscientiousness, Firmness, Love of Home, of Young, and of Country are well defined. Amativeness, Benevolence, Economy, Hospitality, Sanativeness, Color, Mirthfulness, Friendship, Modesty, and Approbativeness are all very well developed, thus showing constitutional vigor and the essential foundation of sympathetic emotion for the orator and reformer. The signs for Analysis, Human Nature, Sublimity, Ideality, Constructiveness, Mental Imitation, Veneration, Executiveness, Self-will, Language, Music, Calculation, Order, Form, Size, Locality, and Memory of Events are large, while Credenciveness is deficient.

Self-esteem or dignity will naturally set up the standard of leadership in their games and pastimes. A child with natural Executiveness will also assume the character of the "father," or "mother," or "captain," or "teacher," in intercourse with his or her playmates, and in childhood, as well as in adult life, the one who is able to lead does so according to the infallible law of the reign of the fittest.

In the animal kingdom the faculty of leadership, by virtue of capacity, is exhibited in a very marked manner, and, in this domain, leadership always rests upon *true merit*, and, according to animal ideas, the leader must prove his power or vacate the position. "Family influence" here goes for nothing, and *deeds alone* entitle the conquering buck to the possession of the does, the right to whom he has had to earn by the most valiant and hard-fought battles. Among the peaceful, graminivorous tribes, the "bell-wether" leads the flock by reason of ability to do so; and, lower down, the most skillful beaver acts as engineer-in-chief to locate and construct the dams and dwellings for the tribes. So, also, the ants choose capable superintendents and architects, whose authority is acknowledged and ability unquestioned by those who work under direction of their chosen leaders. The faculty of Self-esteem, then, must be inherent as low down in the animal series as the insect tribes, and possibly it may be exhibited in some way by those still lower down. Because man's faculties are too gross to penetrate the finer powers of animal life he assumes that animals are deficient creatures, and not possessed of sense or mind,—only "instinct." The microscope possesses powers of which the most perfect human eye is destitute, and this same instrument reveals to man facts in animal nature which almost exceed belief. The patience and observation of numberless naturalists are accumulating a vast amount of evidence in this direction, which is adding greatly to our intelligence on the subject of the mental life of animals, and which must greatly contribute to the respect in which we should hold them. Let the reader peruse the works of the Rev. J. G. Wood, Pierre Huber, Dr. J. Lauder Lindsay, Charles Darwin, Buckland, Houzeau, Büchner, Youatt, Miss Cobbe, and others, who have made the study of animals a specialty, and he will become convinced that the mentality of animals is different from man's only in degree, not in kind. In treating of Mind in its most comprehensive sense I am obliged to include some notice of animal mentality, for there can be but one mind pervading all animate objects, just as there is but one life permeating all things in existence, yet manifesting itself in many diverse methods in unnumbered objects.

The reader will observe that in the descriptions of the faculties in this chapter a space is devoted to notice of similar faculties in various animals. My object in thus doing is to *enlarge* the ideas of my readers, and to lead them to take a more comprehensive view of mind than obtains at present among the masses. When man magnifies himself at the expense of the animal kingdom he does himself, as well as the animal tribes, a gross injustice. He narrows his view of Nature's laws and shuts out much which the great truths of evolution teach.

A balanced degree of Self-esteem is of infinite service to man, and is intended to teach him to protect, uphold, and respect himself by causing him to pursue a course of conduct which will entitle him not only to respect himself, but to deserve the respect of others. It is, indeed, a "tower of strength" to the character, and will enable one to push his way to many places of importance, social, commercial, and governmental.

Those with short upper lips are greatly lacking in Self-esteem, yet usually possess a large share of Approbativeness, which assists the character. Children with this feature should be encouraged to act with self-reliance and be taught to depend on their own efforts and to value their own opinions more. In this manner the lack of Self-esteem can be overcome in a measure, and thus add strength and power. Parents should always seek to *level up* the character and not to *level down* this trait by discouraging bashful, shame-faced children. Many parents will observe in the presence of a child, "Oh, there is no use trying to make anything of Johnnie; he is too bashful to ever amount to anything." They should take the opposite course with diffident children, and inspire them with a belief in their own abilities by saying in their hearing, "I expect my boy to succeed," or "My daughter has ability to do many things well, and she will certainly show it." Always speak of them and to them as if their backwardness, or lack of Self-esteem, was only an incident peculiar to childhood, but always *assume* in their hearing that they are expected to put forth all their energies, and that success will surely crown their efforts. Many a boy has been obliged to take a second-rate place in life simply because his self-estimation was not commensurate with his abilities.

It is wonderful how readily the world accepts our own valuation of ourselves. This being the fact, all should put a high estimate upon their character and then *live up to it.*

The effects which are produced by the combination of Self-esteem with other faculties are most noteworthy. Average Self-esteem, with Firmness and Conscientiousness, lends great dignity and moral worth to the character, together with a stable, reliable mind; with the intellectual faculties large, the individual will seek to lead in public matters, reforms, etc.; with large Self-esteem and large Hope, he will exhibit a most inflated idea of his capacities, and in business will be too sanguine for success, always venturing beyond his depth; with large Approbativeness, added to Self-esteem, will become a "shoddy aristocrat" and assume airs of superiority, and be offensively egotistic, boast of "family," blue-blood, etc.; with large Love of Young, will always put children forward, boast of their attainments, and speak of them as great "beauties" and full of talent, when perhaps they appear plain and dull to others; with large Approbativeness, Force, Executiveness, and Firmness, will aim to be a leader, and become captain, officer, or superintendent by virtue of ability to be such; with large Language and reason added, will make a public speaker, and seek to influence the public mind. Self-esteem, combined with Firmness, Force, the Practical faculties, and Constructiveness, enables one to superintend large numbers of persons engaged in mechanical pursuits, as in foundries, workshops, etc.; with Acquisitiveness added, he will succeed well in commercial life, particularly where commerce is concerned in mechanical appliances, such as hardware, agricultural implements, machinery, and similar articles. Large Self-esteem, combined with Firmness and Conscientiousness, creates great dignity and honorable conduct; with intellectual faculties large, it will impart pride of one's moral and intellectual worth, and will make *self* prominent in all reform movements which bring into action moral and intellectual powers. Those with small Self-esteem and large Approbativeness will seek the commendation of others, and feel small and insignificant if not applauded or approved by them. If praise is withheld they will act and look cheap, and will almost apologize for being in existence at all, and will be deficient in dignity and independence, and will never feel that their conduct or efforts are *quite* as *good* as others, no matter how meritorious they may be; this class will almost live upon praise, and, when it is profuse, they will put forth all their energy and power, but unless praised will droop and become dispirited and probably fail.

The effect of a *balanced self-esteem* is to give a *just estimate* of one's worth; this lends to the character true dignity, independence, decorum, sense of propriety at all times and in all places; prevents clownish fun, and holds one up to a high standard of conduct. It is thus shown to be one of the most important moral powers, and should be developed in those in whom it is deficient.

An average development of the length of the upper lip assists in the symmetry and proportion of the face, yet those persons whose only idea of beauty is derived from classic models profess to see no beauty in a moderately long upper lip, but think such a lip looks, as a lady once expressed it to me, "so plain."

The short upper lip, which is almost universally observed in the physiognomies of classic creations, is expressive of only *one* form of beauty. The Greeks had doubtless perceived that many of their talented poets and actors exhibited a short upper lip, hence this feature was used by them to express Art-beauty. Reference to the works of the Greek sculptors will disclose the short upper lip in the statues of many of their gods and goddesses who typified the Muses, and were considered the presiding deities of music, poetry, the drama, etc. Nearly all actors and actresses exhibit a short upper lip and are correspondingly deficient in Self-esteem, but large in Approbativeness. Self-esteem would, in an ordinary artist, detract from his acting, because the player must be able to hide his own personality *entirely* in order to faithfully portray the character which he desires to represent; hence, a strong sense of his own selfhood would conflict with his impersonations. A good actor of the *imitative class* must and does possess large Imitation, Secretiveness, and large Approbativeness, together with large Form and Size, to assist in posing, in gesture, and in arranging drapery, etc. He also has large Language, Amativeness, Love of Young, and Constructiveness. Now, these faculties and their accompanying facial characteristics may be found in the physiognomies of hundreds of those whom I term the "Imitative class" of actors. The "*Creative* class," like musical composers, are possessed of more lofty attributes of character, hence their physiognomies possess more powerful features, more individualized expressions, more Self-esteem, and relatively less Approbativeness.

The following description of features seen in the faces of the majority of imitative artists can be verified by placing any number of their portraits side by side. Although the individual *expression* may vary, the general forms of their features will coincide and will appear as here indicated: A soft, round, muscular chin, often dimpled; full lips, particularly developed at the signs for Amativeness and Love of Young; short upper lip; signs for Mirthfulness and Approbativeness very decided, producing wrinkles or dimples in the cheeks and at the exterior corners of the mouth; nose thick at the lower third, showing the presence of Constructiveness and Ideality; width between the eyes, showing Form; very large, bright, and prominent eyes, disclosing Language; arched eyebrows, indicating Credenciveness, and the upper and middle part of the face and the sides rounding; the face usually oval and the lower jaw inclined to curve. In this description you have the portrait of hundreds of actors, singers, athletes, painters, and the artistic class generally. The variations within these classes are shown by variations in the shape of the nose more than by any other feature, the musical nose being shorter than the nose of the others, although many of the imitative painters exhibit short, round, pug-noses.

The description of the great creative artists, composers, painters, etc., I reserve for another space. Suffice it to say that Self-esteem enters largely into their characters, and is a necessary part of the character which is accustomed to impersonate the grandest characters known in history, such as kings, queens, cardinals, generals, and philosophers. The first-mentioned class of artists delineate the lighter characters, such as ladies of fashion, chambermaids, fops, and comic characters generally, and these require the exercise of the *lighter* faculties of the mind; but the latter class of persons demand the exercise of the highest and strongest traits of character in their expression, hence the *grander* traits must be possessed by those who would interpret them on the mimic stage, in accordance with that law of human nature which permits the individual to express in deeds or works only those principles which exist in his own organism. Accordingly, we find in the physiognomies of the creative artists, such as Booth, Salvini, Mad. Ristori, Raymond, Barrett, Irving, and others of this class, *a relatively long upper lip*, disclosing Self-esteem, together with large Self-will; also a large, broad, long nose, denoting force of character; a large, broad chin, showing Firmness and Conscientiousness or thoroughness and persistency in their impersonations. Large Language is also present, as is shown by the full eyes, while the dimpled chin in many indicates that their appreciation of the beauty of the opposite sex lies at the foundation of their creative minds, for sex-love and sex-appreciation are the great underlying forces which assist *creative* efforts in the mind, and are most decided traits in the mental construction of all the great creative minds in art, science, and literature.

The presence of a good share of Self-esteem in a character is always proof of the possession of a certain degree of high or noble traits,—something which the possessor can respect and esteem. The chief office of this faculty is to assist in guarding the reputation by compelling the individual to behave in a self-respecting manner. Where it is largely developed the reputation as well as the character will be an object of solicitude, yet character will stand *first* in appreciation. The sentiments expressed by Mowbray* in "Richard II," where he exclaims—

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* Act I, Scene 1, Richard II, Shakespeare.

> "Mine honor is my life; both grow in one;
> Take honor from me and my life is done.
> Then dear my liege, mine honor let me try;
> In that I live, and for that will I die"—

will express the feeling of one with large Self-esteem.

MODESTY.

Definition.—Sense of propriety and decency; chastity; purity of thought; unobtrusiveness; reserve; "inclination to assume less than is one's due and concede more than is the due of others." Physiologically, Modesty is exhibited by a love of personal cleanliness and neatness of one's surroundings, as in clothing, the domicile, etc.

An *excess* of Modesty is shown by painful bashfulness, diffidence or abject humility; by dislike of the attentions and society of the opposite sex; shrinking from notice; also by extreme cleanliness of person and "painful neatness."

A *deficiency* of this trait leads to boldness, arrogance, self-confidence, indecency, lewdness, unchastity, lack of cleanliness, and indifference to vulgar language, filth, and dirt.

Facial and Bodily Signs.—As the base of Modesty is traced to the sensitiveness of the nerves of the skin, we shall, accordingly, find that a *fine*, thin, clear skin is one of the best indications of the presence of Modesty; also *fine*, smooth, glossy hair is another indication of sensitiveness of the nervous system. A most reliable facial sign is shown in the depth of the little perpendicular channel or groove which divides the upper lip in two, running vertically from the septum of the nose down through the facial sign for Amativeness. This trait is found large in all in whom the brain and nerve system predominates, *whether this local sign be present or not.* Blushing and downcast looks are physiological signs of excessive Modesty and sensitiveness.

DESCRIPTION OF MODESTY.—The predominance of the brain and nerve system always gives a more elevated cast of thought than the other systems. Its position shows it to be the highest in the organism; hence, where it preponderates it will be found to produce the purest sentiments and emotions. It is the system of *quality*, fineness, and sensitiveness. The nervous system was primarily evolved from the skin, and, as a fine, thin skin is indicative of a sensitive nervous system, the skin thus becomes a sign of purity, modesty, and love of cleanliness and neatness. The faces of Charlotte Brontè, Lucretia Mott, Elizabeth Barrett Browning, Beranger the French poet, and Lavater are well marked in this respect.

Many persons in whom the brain system is not dominant exhibit a large degree of Modesty. This is owing to the natural or inherited *quality of the nervous system*, for one may possess a very sensitive nervous system without the *brain* dominating. Many persons with the osseous system or the thoracic system in the ascendency exhibit a fine and sensitive quality of the nerves, and this sensitiveness of the skin leads to delicate personal habits and love of cleanliness and neatness of attire. When we consider that the *sense of touch* is diffused over the entire surface of the body, and is produced by a net-work of nerves which ramifies upon the skin-covering of the whole body, we can easily understand why an individual with a sensitive quality of the nerves apprehends more readily the nature of things, of tactile impressions, than does one not possessed of a like degree of sensation. And, as a sensitive nerve needs more care, and cannot endure contact with gross matters as well as a coarser nerve-structure, it follows that the more sensitively-endowed individual will seek protection in avoiding rough, gross, and filthy matters, and sustain his powers by cleanliness of the person and by neatness of attire, as well as by neat surroundings. By virtue of the same sensitive quality of the sense of touch the mind is quick and apprehensive, and this sensitiveness leads one to avoid impure, vulgar, and unchaste words and deeds. And in this exposition of cause and effect—of physiological cause and moral and mental effect—we find proof of the fact that mind, morals, and body are one and indivisible, and that there is no line of demarkation between them.

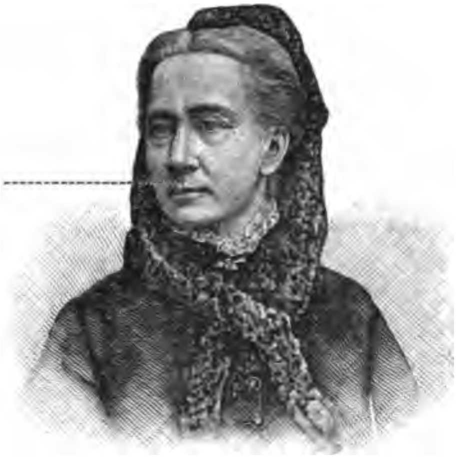

FIG. 54.—BELVA A. LOCKWOOD.* (M.A., TEACHER, ATTORNEY-AT-LAW, REFORMER.)

Born in America. Conspicuous facial sign, Modesty, shown by the depth of the groove which is observed in the centre of the upper lip. The law of the straight line and square governs this face. 'The above portrait discloses a womanly and intellectual character. The domestic virtues are well defined. Conscientiousness is large. Patriotism, Love of Home, Benevolence, Amativeness, Love of Young, Mirthfulness Modesty, and Self-Esteem are conspicuous. In the nose the signs of Ideality, Sublimity, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are large. Language is exceedingly well developed; so also are Form, Size, Locality, Prescience, Memory of Events, Order, Reason, and Intuition. This lady enjoys the distinction of being a practitioner in the Supreme Court of the United States. She is an ardent advocate of woman's equality, and is in all ways an illustration of what she professes.

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* Cut by permission of the editors of the "History of Woman Suffrage."

The other organs—those of scent, of sight, of hearing, and of taste—are all situated near the surface, and covered with a sensitive skin both within and without their orifices, and are also connected with the central and cerebral nervous systems, thus proving their mental power as well as physiological basis.

The placing of the signs of character in the face is one of the highest proofs of the harmony of Nature's works. The situation of the *local* sign for Modesty is most significant of the beauty and propriety of the manner of grouping the signs in the face. We have previously considered the nature of Self-esteem and shown to what its excess leads, but Modesty, running down the centre of the upper lip, cutting its way right through the middle of the sign for Self-esteem, seems to say to it: "I will put a check upon your estimate of yourself, and compel you to be moderate in your manifestations of personal valuation." Modesty reaches out to the local sign for *Amativeness*, and here again we are struck with the beauty and utility of its placing. The manifestations of Amativeness uncontrolled by Modesty would be offensive to good taste, decency, and propriety. We are sometimes met with overfond manifestations of love publicly displayed by love-lorn swains, in whose character and countenances the faculty and sign for Modesty is scarcely discernible. The truly modest person shows the presence of purity of thought, expression, and conduct by bodily cleanliness and neatness of attire, by chaste and pure language, and decorous and appropriate demeanor. On the contrary, the mock-modest person perceives immodesty in what is natural and in what is not intended to wound the sensitiveness of the really pure-minded. The mock-modest

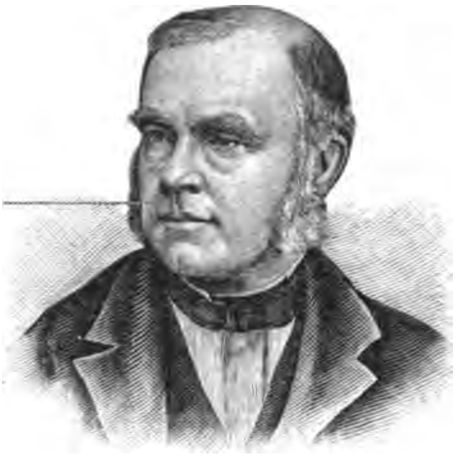

FIG. 55.—JOHN WILLIAM DRAPER. (CHEMIST, PHYSIOLOGIST, AUTHOR, HISTORIAN.)

Born in England, 1811. Conspicuous facial sign, Modesty, shown by depth of line running down the centre of the upper lip. The law of the straight line, square, and curve governs this physiognomy. A quiet, calm expression of conscious power pervades this face. All of the signs of a good constitution are present. The lower third of the countenance discloses the signs for Conscientiousness, Firmness, Economy, Self-esteem, Love of Young, of Home, of Patriotism, Benevolence, Amativeness, and Hospitality most decided. The nose is Constructive; in it we observe the signs for Sublimity, Human Nature, Mental Imitation, Analysis, Ideality, Veneration, Executiveness, Self-will large. The faculties of Language, Color, Form, Size, Locality, Observation, Memory of Events, and Reason are pronounced. Credenciveness is small. A highly moral and able character.

and prurient-minded person is angry at Nature for having made us of flesh and blood, and thinks that the only way to remedy her immodest mistake is to ignore the facts of our physiological construction altogether. To this class belong those who are shocked if one use the term "bowels" to describe the intestinal part of the body, and who think to misname it "stomach" is a more refined way of speaking. This same class of people make themselves ridiculous in the eyes of the sensible and truly modest by speaking of that class of Nature's manifestations which are proper to mention, by a misuse of terms, and so call attention to the innate immodesty and pruriency of their own minds.

Modesty has its mental adaptation as well as its physical and moral aspects. Those who are mentally modest will show it by their unobtrusive manner, by shrinking from public notice, and, if they have done a very meritorious deed, will prefer that it should not be referred to in their presence. If given to art or literature, they will seek to hide, under a *nom de plume*, their identity.

Many modest and retiring women have performed noble, charitable, and valorous deeds which have made them world-renowned; yet with this publicity they have retained their womanliness and purity of life. Joan of Arc, impelled by the love of humanity and of patriotism, donned male attire and led the armies of France to victory; yet there has never been aught charged against her purity, although the superstitions of the age in which she lived led to her being tried for sorcery and burned at the stake. Her portraits show a face of great purity and modesty. Florence Nightingale, a modest and refined English woman, was a devoted nurse to the soldiers during the Crimean war. She became celebrated for her charity and courage, yet retained her maidenly purity and refinement, and always shrunk from praise or notoriety.

True heroism is always modest, for gentleness, kindness, and bravery must be blended in order to form heroism. Modesty in man is as becoming as in woman. Mothers need to cultivate and develop this trait in boys particularly, who should be taught to guard their speech and avoid all vulgar phrases and expressions. All boys should join the "White Cross Army," of which mention has been made elsewhere. It is devoted to moral purity, and is a great assistant to young boys. Every one must feel the necessity for special training for boys in this direction. I have been often horrified in passing through the streets by the profane and even obscene language which fell from the lips of very young boys, those, too, who were members of respectable families, thus showing that special training and direction on this point is most necessary.

The modesty of many members of the animal kingdom will contrast well with the vulgar, immodest, and low practices of some uncivilized races of men, and will compare favorably with the conduct of the better classes among civilized people. Travellers and missionaries, who have dwelt among the Maoris, of New Zealand, and the Fijians, tell us that they have "no sense of sexual decency, modesty, chastity, virtue, purity, propriety, or shame; no marriage tie or rite; no family arrangements; no love, maternal, paternal, conjugal, parental, filial, or fraternal; no idea of paternity or of other relationships."* In conjugal love and fidelity, the lowly dove is far above these wretched human beings, and is certainly the peer in this respect of the most civilized. I have no space to note the countless anecdotes recorded of the maternal, paternal, and fraternal love shown by various races of animals, all tending to prove that in these sentiments, as well as in others, many animals are superior to large numbers of men.

The Modesty of many classes of animals is quite markedly in contrast with the love of publicity of many persons, both in civilized and uncivilized races, and is noted by Dr. Lindsay. He remarks that

> Certain menagerie or other captive animals show a decided dislike for publicity, to being stared at or looked at, or to being made a show of. Thus, the male hog-deer of India is highly nervous in the presence of visitors. When forced out of its house in the London Zoological Gardens it betrays immediate and considerable excitement, "dashing about the enclosure as if frantic, leaping high in the air" (Wood). And such behavior is not to be wondered at in the case of many animals that in a state of Nature go forth only in the night, or that are naturally solitary and unaccustomed to the disturbing sounds and sights of menagerie-life. Possibly, in some cases, their sense of personal modesty is shocked; their love of domestic privacy is violated, or there is simply an aversion to strangers, depending upon a natural shyness or coyness. Barbarous and other animals resent the intrusion of strangers, jealously guarding the privacy of their homes (Cassell).†

These extracts will serve to show that animals possess a sense of decency, modesty, and conjugal fidelity,—virtues popularly supposed to be the exclusive attributes of man. I might continue the collation of evidence indefinitely, but sufficient is noted to prove that Modesty is not an exclusively human trait.

Blushing, which is popularly supposed to indicate the presence of Modesty, is not an exclusively human act, but is exhibited by various animals, and is often the result of other causes than Modesty or sensitiveness. On this point Dr. Lindsay remarks thus:—

> Blushing is not peculiar to man, though it is much more readily seen in him by reason of the color of his skin and the bareness of his face.

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* Mind in the Lower Animals, J. L. Lindsay, M.D., vol. i, p. 165.
† *Ibid.*, vol. ii, p. 28.

Color-change in the skin of various animals may be regarded as an equivalent to blushing, while the feelings which give rise to the blush of man are expressed in other ways in other animals, though not less eloquently, *e.g.*, shame and Modesty.*

Experience leads us to know that blushing is not always a sign of Modesty. It proceeds from a variety of causes, yet general sensitiveness of the nerves of the skin creates a delicacy of apprehension, and thus leads one thus constituted to express many emotions by blushing. Guilt is often thought to be indicated by blushing, but it is quite as just to suppose it the proof of innocence, for any sensitive or honest person will blush as quickly from emotion produced by the suspicion or accusation of guilt as he would from the consciousness of guilt; indeed, I think that the blush in this case would be the best proof of innocence, for sensitive, refined persons are rarely so demoralized as to do mean, criminal acts, and coarsely constituted persons do not blush as readily as those with fine skins when under suspicion.

All sudden color-changes are produced by variations in the circulation of the blood, and sudden pallor is as often observed in the countenance as reddening of the skin. It is the result of sudden emotion or of sudden morbid pathological changes in the body or mind. This phenomena is common alike to man and animal, and may be an indication of innocence under false accusation or it may proceed from guilt confounded, or fear, or other emotions. That this peculiarity is common to animals has been noted by Dr. Lindsay. He observes:—

> Pallor, anæmia, or blanching of the face from fear may be seen, especially in certain bare-faced monkeys (Sutton); while exciting emotions, such as passion, produce in them reddening, flushing, suffusion." †

Downcast looks are thought to be indicative of Modesty and shyness, while many believe them to be signs of guilty consciousness. They are exhibited as the result of both purity and guilt. Dogs hang their heads and cast down their eyes when detected in wrong-doing, as well as when reprehended wrongfully. Shy, country-children, upon meeting strangers, hang the head, and also when reprimanded for naughtiness. Shy, coy maidens look down and through their eye-lashes in a furtive manner; but shyness must not be confounded with *slyness*, for the two traits present often the same appearances or what are judged to be similar. Many sly people have a fashion of casting down the eyes and giving *sidelong* glances. This action is the method which a sly person takes to deceive, by *pretending* not to look, while he or she really watches in a covert manner out of the corners of the eye. This act and its interpretation are in accord with physiognomic laws which declare that all crooked or oblique looks, lines, gestures, or forms are evidences of crooked, unreliable characters.

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* Mind in the Lower Animals, Lindsay, vol. i, p. 113.

† *Ibid.*, vol. ii, p. 261.

I once knew a man who was attracted to a girl simply because she had a trick of casting down her eyes and peeping at him from the corners. He believed this "artfully-artless" trick to be the sign of excessive modesty, simplicity, and shyness. He married her, and lived to learn that this particular form of "shyness" should be spelled "slyness."

There have been instances of persons, both male and female, who have been so sensitive and shy as to cause them to shut themselves away from intercourse with society. Such persons are to be pitied, for their shyness is a sign of a morbid or diseased condition. Where this morbid feeling leads to avoidance of the opposite sex only, we may expect to find deficient development of sexuality and a corresponding absence of its associated sentiment, Amativeness. This is nearly always the case when shyness is indicated in this particular manner.

Bashfulness amounts in many cases to a disease, and one can but sympathize with young persons of either sex who are affected by excessive diffidence.

Where coyness, shyness, bashfulness, and diffidence are exhibited after the age of youth they must be considered either as indicative of morbid states of mind or as affectations, and "affectation," says some witty writer, "is the endeavor to make the impoverished seem wealthy." In other words, affectation of extreme Modesty is the effort to cover its *entire absence.*

Shyness is unbecoming in young ladies and gentlemen past twenty, for it is a youthful or defective state of mind,—one which experience and development of the intellect will remedy. If it does not, then it denotes deficient sense, or deficient strength of the nervous system, or of some other part of the organism; and when it does not proceed from either of these causes, it is an affectation, and therefore thoroughly detestable in the one imitating it.

In this instance the law which physiognomy formulates with respect to infantile appearances is made apparent. The law in regard to juvenile or infantile traits or forms, when exhibited in adult life, is stated thus:—

All forms, traits, or appearances which belong to infancy, immaturity, or youth, when exhibited in the adult, argue similar traits and characteristics as are common to infancy or youth. Lisping, stammering, halting speech, downcast looks, extreme shyness;

small, undeveloped mouth; undeveloped nose or chin; rounding, infantile forehead, or any other form or habit natural to childhood, when observed in the adult, are evidences of immaturity of some sort. This law is explained elsewhere in detail, hence unnecessary to recapitulate here. Suffice it to say that bashfulness, blushing (except where the skin is uncommonly thin and sensitive), continued beyond the age of youth, are evidences of undevelopment of some portion of the organism or of a lack of mental energy. When constant blushing is exhibited in adult life we must conclude that there is a great sensibility of the centres of emotion; in other words, of the ganglia connected with the internal organs, and this centrifugal nervous force, sent from the great centres of emotion, expends itself upon the nervous surfaces of the nerves of touch, situated all over the external skin-covering, and are more particularly discernible in the face, neck, and near all the external orifices of the five senses. It is rational to conclude that the face and neck, where are situated so many important ganglia and nerves, as are essential to the manifestation of sight, sound, scent, taste, and hearing, would be most uncommonly sensitive, and express every shade and degree of change in mental and moral, as well as physical, conditions. For this reason the face is the most reliable portion of the anatomy by which to read character,—far more comprehensive than an examination of the outlines of the bony case of the brain, which changes only by years of age, and has not the assistance of the finer nerves of sense and of the delicate and most expressive facial muscles to assist in interpreting character. When we come to deal with the emotional conditions such as are expressed by blushing and by certain tones of the voice, as in acting and in the great crises of feeling and other emotional expressions, we can only comprehend them fully by reference to their origin, viz., by analysis of the *source* of the emotions, the ganglia of the great visceral structures, and their agents, the glands and muscles. It is not just that the physiognomist should dogmatically *assert* that *his* observations are true. This might satisfy *him*, but would not be satisfactory to the scientific inquirer; neither would such dogmatism be just to so grand and noble a science as the science of Man. A portion of the organism which can disclose every slight and instantaneous change within the hidden recesses of the body must appear to the thoughtful the most useful portion by which to discover thought and feeling, and transient as well as permanent states. Not only so, but it must possess great malleability, and be capable (by its nervous and muscular connections with the brain and the great chain of nerves leading to the visceral organs, as well as to the spinal column) of being fashioned and shaped into the form toward which the most habitual states of mind tend. Constant sadness, as all know, makes tense the muscles, while joy relaxes them, particularly those about the mouth and eyes; while the lachrymal and salivary glands, as well as the heart and organs of respiration all conspire together, while under the influence of emotions, to change the expression of the face; and, if certain states of *feeling* or of reflection are long continued or oft-repeated, they leave *permanent expressions on the features*, particularly of the muscular portions of the face. The bony structure always discloses the more solid and permanent traits, and the function of digestion decides by its action the form of the cheeks and the general fullness or leanness of the entire countenance. The greatest of anatomists, those who might be presumed to know more of the sources of the emotions than others less well informed as to the structure and operation of the bodily organs, hold opinions in regard to the face quite in harmony with many of my own. Sir Charles Bell, for example, observes:—

> The man was wrong who found fault with Nature for not placing a window before the heart in order to render visible human thoughts and intentions. There is, in truth, provision made in the *countenance and outward bearing* for such discoveries.*

Sir Charles Bell has little to say, however, as to the origin of blushing. Later scientists have given the subject more attention. What he does say is pertinent, and I quote it in verification of the principle which I endeavor to elucidate, viz., that it arises from excitement of the emotional centres. He observes:—

> We think of blushing as accompanying shame, but it is indicative of *excitement*. There is no shame when lively feeling makes a timid youth break through the restraint which modesty and reserve have imposed. It is becoming in youth; it is seemly in more advanced years *in women*. Blushing assorts well with *youthful and effeminate features*, while nothing is more hateful than a dog-face that exhibits no token of sensibility in the variation of color.†

Individuals with very thick skins and insensitive nerves never change color, for the reason that they never *feel* as deeply as those who possess the opposite structure; hence, they are incapable of expressing sympathy or excitement in this manner. I think it unjust to the canine tribe for Sir Charles Bell to term unresponsive human countenances "dog-faces." Dogs often exhibit Modesty when greatly praised, and hang their heads and drop the eyes, just as children do under excessive approbation and attention. Even negroes blush, for it has been observed where the scar of a wound has left a white cicatrix that this part reddened when under the influence of rage. We have no evidence that dogs and other animals do not blush *under their skins*, like the negro, under excitement.

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* Anatomy of Expression, Sir Charles Bell, p. 82. New York, 1883. † *Ibid.*

Poets in all ages have sung of the potent effects of blushing as evidence of modest, chaste, and youthful feeling. The phrases, "blushing bride," "the blushing maiden," "the youth flushed with innocence," etc., show us that this particular form of sensibility has been looked upon as expressive of the more youthful and innocent feelings of humanity, and the face that cannot change somewhat in color, upon great provocation, expresses either an unfeeling or an unthinking character.

FORCE.

Definition.—Physical strength, physical courage, boldness, spontaneous resistance, opposition, resentment, strong or passionate temper, decided will, coolness in danger, self-protection, spirited conduct and language. Force, combined with Conscientiousness and Intellect, creates Executiveness.

An *excess* leads to undue use of the muscular system, as in athletics, etc., which tends to shorten life. Unbalanced by Caution it creates rashness and causes wanton destruction, wars, murder, quarreling, fighting, bickering, scolding, teasing, and tantalizing language.

A *deficiency* creates timidity and cautiousness, and causes weakness of will and spirit. Those thus characterized will use very mild language, will be entirely too meek and humble, and unable to resent wrongs by forcible words or blows.

Facial and Bodily Signs.—The principal facial signs of Force are large, convex eyes; round or oval face, large mouth, heavy and wide lower jaw, wide nostrils, square jaws, strong and square bones; low, broad forehead; round head, heavy eyebrows, an abundance of coarse hair, and round, muscular ears setting well out from the head. The bodily signs are shown by broad shoulders, thick neck; rounded, muscular limbs; muscular hands, broad chest; short, thick feet; arched instep. There are several sorts of Force, one class shown by strong and square bones, together with strong muscles; another variety is shown mainly by muscular development.

DESCRIPTION OF FORCE.—The normal use of the faculty of Force is exhibited in *constructive energy*, yet it is also the power used by man to destroy as well as to rebuild. Its origin and main base of supply is the muscular system. Within this system there are more than five hundred single muscles, and in the face thirty-six pairs and two single muscles. This great number of facial muscles assist all the expressions of Force, rage, and destruction, which are often seen in action in the human countenance, in motion, and in language of a forcible, energetic, or belligerent nature; hence, this faculty is not limited to one single sign, but is manifested by means of the entire muscular system, and this includes the involuntary muscles, such as the heart and stomach, as well as the voluntary muscles which are found in every part of the body. The only method by which we can understand the operation and effect of Force in the human body and face is by the investigation of the muscular system. We are thus enabled to understand how so great a variety of movements and expressions can be produced by the movements of the facial muscles alone, while movements of the muscles of the trunk, limbs, and hands reveal other peculiarities of this faculty. The rounding *outline* of the individual in whom Force is pre-eminent announces his ability for useful, constructive operations, as well as his capacity for destruction. The faculties in combination will decide which direction this trait will take.

Those possessed of *round muscles* are the most vigorous, efficient, and powerful in action, whether in work, play, love, or fighting, and this formation of the muscles rounds out not only the sides of the head above the ears, where the "organ" of Force is said by phrenologists to be located, but it also rounds out the head at the base of the brain, where another "organ" is said to be located, viz., Amativeness. Now, Amativeness and Force are both the best developed in muscular persons, and more particularly in those who possess *round* muscles, and this peculiar formation of the muscular system rounds out every part of the human body; not only the head and ears, but also the nose, the limbs, the fingers, the body, and neck, so that a glance at any one portion of the frame in which round muscles are dominant will reveal the construction of all parts, and also denotes the presence of Force, Amativeness, Constructiveness, and many other *muscular traits.*

Force is one of the most essential faculties of the human and animal organisms. Its adaptation is primarily to the destruction of beasts for food, to fishing and hunting, to obtain the means of subsistence; also to the building of habitations. Without this forceful, destructive tendency humanity could not progress, as, for example, in the blasting of rocks, levelling roads, cutting canals, and in all the operations essential to the progressive development of the country, all of which involve destruction before the process of building can be commenced.

Force has its mental use as well as physical aspects, and the energy which springs from a fine development of the muscular system is just as essential to the preacher or moral reformer as it is to the laborer. Martin Luther, whose portraits exhibit this faculty in a high degree, had need of great physical force and

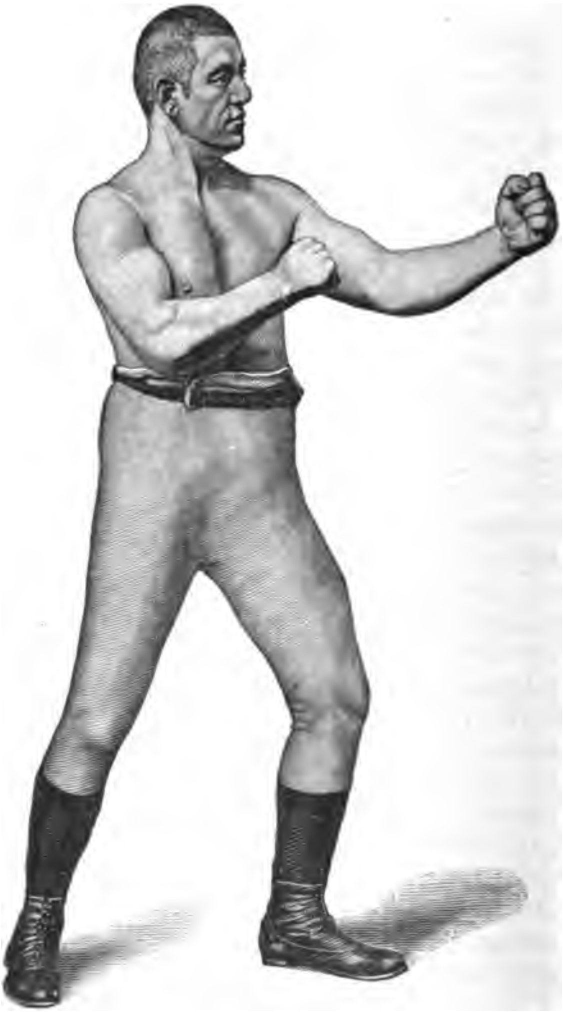

FIG. 56.—JOHN L. SULLIVAN. (CHAMPION PUGILIST.)

Born in America. Conspicuous facial and bodily sign, Force, shown by large nose, large eyes, curving jaw, ears standing well out, broad and deep chest; strong, large bones, and general development of the muscular system. The law of the straight line and curve governs this face. The signs for Firmness, Patriotism, Love of Home, Love of Young, Approbativeness, Resistance, Color, Amativeness, and Sanativeness are well defined. Human Nature, Hope, Veneration, Executiveness, and Self-will are also large; while Form, Size, Locality, Observation, Calculation, Practicality, and Memory of Events show a mechanical cast of mind. The dimpled chin shows appreciation of the beautiful of the opposite sex.

courage to promulgate and enforce the doctrines of the Reformation. Gough, the eminent temperance lecturer, was a man of powerful physique, which enabled him to set forth in an emphatic manner his moral precepts. No development of the brain purely will afford the strength necessary to carry forward great mental labor, and all men, whether in the pulpit, in the reform field, on the platform, or stage, require a large development of muscle in order to impart heat, ardor, and enthusiasm to their hearers and followers, for, as I have shown, these traits are evolved from the muscular system, and are exhibited most decidedly by those in whom this system is dominant, or one of the dominant systems. Henry Ward Beecher was an excellent illustration of this class of enthusiastic, muscular men. He was able not only to enlighten his hearers by his mental powers, but also had the ability to arouse their enthusiasm to a very high pitch. Daniel Webster, the renowned orator, possessed this faculty largely, and his fine muscular build contributed to make his mental efforts more effective.

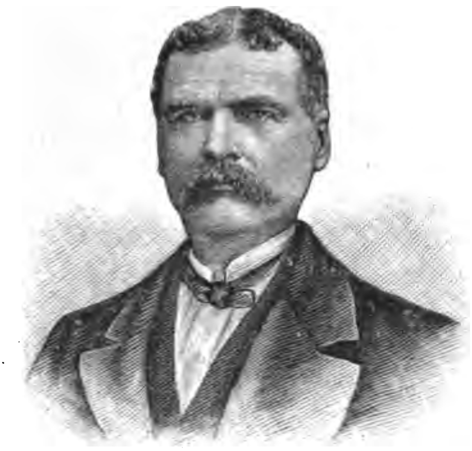

FIG. 57.—ARCHIBALD FORBES. (AUTHOR AND JOURNALIST.)

Born in Scotland. Noted for his bravery as a war-correspondent. Conspicuous facial and bodily sign, Force, shown by large, convex eyes, wide mouth, square jaw, energetic expression, large and high nose, large nostrils, broad shoulders, deep and broad chest, strong bones, well-knit muscles. The law of the straight line, square, and angle governs this face. The signs of a venturous, courageous nature are manifest in this countenance. Conscientiousness, Firmness, Patriotism, Love of Home, Benevolence, Approbativeness, and Friendship are decided traits. So, also, are Human Nature, Hope, Analysis, Mental Imitation, Constructiveness, Acquisitiveness, Veneration, Executiveness, Self-will, Form, Size, Locality, and Calculation.

Men with large brain of high quality are often able to *write* well, yet no man deficient in muscle is able to excite feeling and enthusiasm in his hearers, or to lead a great reform in the face of violent opposition. Moody and Sankey, the popular evangelists, are largely indebted to the development of the muscular system for their power to awaken the interest of the masses,—the one by his voice in oratory, the other by his voice in singing; both of these gifts are derived from the action of the muscles of the larynx and of the limbs and hands in gestures. Their capacity to excite faith in their followers proceeds from the *magnetic* influence of their muscular systems, and the method which they pursue in converting the masses proves that they depend more upon appeals to the imagination, credenciveness, and faith of their hearers than to appeals to their intellect and intelligence. Now, magnetism is a real, tangible force evolved from the muscular system, and is quite as marked and telling in its effects upon the *minds* of people as is a blow upon the body.

The primary aspect of Force is, as has been seen, physical merely, and is of the greatest importance in this department. Its secondary aspect is mental, and here too it is of great benefit to mankind. A large brain (no matter how high its quality), without good muscles and lungs, is a positive detriment to its possessor, for one thus endowed has not the power to *enforce* his thoughts nor strength to sustain that continuous, mental labor which is required by those who would gain a livelihood by the intellect alone. The sensitiveness and timidity of such persons, together with their pale and bloodless countenances, narrow shoulders, and small hands and limbs, are proof positive to the beholder that they will never *lead* the world in thought or action.

When we consider the fibrous nature of certain parts of the brain-structure, as observed in the dura mater and other portions, we would naturally infer that a large development or fine quality of the muscular system would lend force, vigor, and spontaneity to the *mental* operations of those thus endowed. This is, in fact, what we do observe in all men of talent in whom the brain system is assisted by a good muscular system. The fibroid nature of the dura mater reveals the fact that they *all* rely upon muscular or fibroid substances in the brain for power and strength of their intellectual processes, but, when Nature has endowed a man with a good brain development and also with an excellent muscular system, it can be readily seen what an advantage this combination would impart to his mental labors. It is reasonable to suppose in this case that the *fibroid* nature of the dura mater would not only be of a stronger but denser quality than if the muscular system were deficient. Other portions of the brain are of a fibroid nature, and when these are of a superior quality the operations of thought should exhibit greater vigor than if these portions were constructed of a weaker quality of muscular tissue.

The faces of all talented divines, poets, artists, architects, inventors, orators, warriors, and men of action generally, disclose many of the facial signs for the muscular system. These classes are characterized by a thick neck, fullness of the eyes, thickness of the muscle at the junction of the nose with the forehead (sign for Self-will,—this sign is one of the most pronounced signs of the muscular system), curving outward of the lower jaw-bone, and width of the nose just above the alæ; the eyebrows somewhat arched, and the forehead in front inclined more to a *perpendicular* than to a receding outline.

The faculty of Force, which we are now considering, is the base of mental courage, but not of moral courage. The latter resides in the integrity of the *osseous* system, while intellectual courage proceeds from a good development of the brain assisted by the muscular system. Physical courage is the direct product of a fine development of the muscular system. That this is so is evidenced by the muscular powers of the athlete and prize-fighter, the oarsman, sea-captain, sharpshooter, and ball-player. All these classes possess coolness in danger, and resolution, as well as prompt action in sudden crises, such as accidents on sea or land, in panics and riots. Many steamship engineers and sea-captains are of the muscular build, being relatively short, broad, and round. These men exhibit great coolness, resolution, promptness of action, and possess other qualities of a social and domestic nature which inhere in the muscular system.

How useful the faculty of Force is to men of mental powers is well illustrated in the following from the pen of Dr. Cross. He remarks:—

> Thus we see that whatever slight advantages Nature may bestow in pity upon the weak and timid, yet the courageous and the strong are the favorites to whom she has intrusted the intellectual concerns of the world. Courage is as necessary to the direct promotion of science as to its indirect promotion by the acquirement of plentiful supplies of food and the maintenance of personal safety; for a timid philosopher is as unfit for the *pen* as is a timid soldier for the sword.*

The right development of the muscular system should be considered a *religious* duty. Lack of Force endangers and shortens life, reduces the mental powers to a minimum, makes cowards and sneaks, creates timid, sickly children and inefficient fathers and mothers.

I have been much interested in watching the conduct of little girls trained in a gymnasium. I find that, although of tender years, they possess great coolness when in unsafe positions, and that they are ready with trained brain and muscles to jump out of, or off from, any place which seems to them to be dangerous; and this they do promptly and without direction, gauging by the trained eye the distance to jump, and in this way their courage, will-power, coolness, self-possession, and strength are enhanced a thousandfold. They form a decided contrast to those children who, untrained, timid, and irresolute, when placed in danger either become maimed or lose their life, owing to their defective muscular power and feeble will.

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* An Attempt to Establish Physiognomy on Scientific Principles, John Cross, M.D., p. 146.

All children should be thoroughly trained in gymnastics. More especially should girls be thus trained, for all may become wives and mothers, and certainly development of the muscular powers is one of the most essential conditions for motherhood. A resolute will is most important in the rearing of children; through lack of this faculty and of necessary *force* in the mother, many a bright boy has gone down to perdition, wrecked by the soft-headed, soft-hearted, emotional mother, without power enough to enforce the slightest law or command. Our penitentiaries are recruited more from the ranks of those who have been spoiled with over-indulgence than from those who have been reasonably disciplined by parents possessed of some strength of mind and force of character. Had I a weakly, timid, vacillating child I would have it trained systematically in a good gymnasium. If there was none convenient I would have a horizontal bar erected out of doors, and compel daily, systematic practice upon it. Parents can procure works at any book-store on the subject, with description of exercises and plates of apparatus for the same. These exercises assist in developing spirit and courage as well as lung-power, and this tends directly to mental power. Were I called upon to advise how to strengthen a feeble brain I should advise systematic exercise in gymnastics and elocution. No *course of study* can give that vigor to the thoughts and brain which development to the muscular system imparts, but the greatest improvement is manifested when the lungs are strengthened and enlarged by long-continued breathing exercise, by rowing and swimming, etc. The practice of elocution is another most excellent way to impart force and vigor to the timid and diffident. Where Force is present in a large degree, it is exhibited by a clear, positive, and ringing enunciation. It is one of the finest traits for an orator or public speaker to possess. Indeed, all artists, as well as scientists and mechanics, depend upon a good degree of Force to carry forward their operations. The teacher must possess a fair degree of Force to be able to enforce law and to inspire his pupils with respect for his management. Children instinctively feel the want of or the possession of power in a teacher and conduct themselves accordingly. Force gives vim, energy, and spirit, and these assist the teacher's efforts in imparting knowledge, and in keeping the children's interest aroused. A dull, listless, inert manner in a teacher nullifies in a measure his educational efforts.

An *unbalanced degree* of Force is quite as disastrous in its effects upon the human family as its normal action is beneficial.

Unbridled, unrestrained passion, which is so often observed in very muscular people, leads to terrible crimes, to cruelty, revenge, suicide, and murder. Those who possess a quick and violent temper should guard against its excess, and compel the intellect to govern by deliberately planning, while in a cool mood, to suffer wrong rather than allow the temper to get the upper hand. The evil effects wrought upon the system by overindulgence of passion are terrible to contemplate, for violent passion often leads to disorders of the heart, apoplexy, and other distressing complaints. On the contrary, weakness of Will, or lack of Force, leads one to accept imposition without resisting it, and such persons often suffer great pecuniary loss rather than stand up and contend for their rights, and often act a part which seems mean, cowardly, or criminal rather than force themselves to do what should be done. Those deficient in Force often agree to what their sense of right and reason declare to be improper because they cannot oppose and give a decided negative, while those possessed of a great degree of this faculty speak out in a most decided and spontaneous manner, and often intrude their feelings and convictions in a way more vigorous than elegant.

A large degree of Force gives to the voice clearness and resonance. The reason of this is obvious, for all of the parts of the organism involved in the production of tone are within the muscular system; hence, where this system predominates clear and forcible enunciation will be exhibited, as muscle not only assists language but is indicative of the presence of will-power. The English are a muscular race, and are noted for the mellow, clear, and decided tones of their voices. They speak in *chest*-tones. The American, less well endowed with muscle, speaks in a high nasal or head-tone. So surely does the build of the body give quality to the speech that a good observer may not only name the nationality from the tones of the voice, but should also be able to describe existing mental and pathological conditions from hearing one speak. Not only this, but, conversely, he should be able to describe the dominant systems of the speaker and the form or outline of his body from the tones of his voice.

Color is of great service in determining in what degree Force will be exhibited. Where this faculty is large and the color of the hair and eyes dark or black, the temper will be hot, quick, and often ungovernable, and be long in subsiding when once aroused; with a like degree of muscular development where the color of the hair is light, the eyes blue, and the skin white and red, the temper will be less violent and more easily controlled. The chemical law that intense color and great heat are always to be found associated applies to the human organism as well as to all other departments of Nature. Yet white heat indicates a higher temperature than red heat, and those who turn white under the influence of rage are most to be dreaded. Not only will they be more dangerous to others, but their excess of force will react upon themselves, and often result in serious consequences to their health. Red-haired persons, possessed of large Force, will, if aroused, exhibit very sudden and violent passion, yet it will subside as quickly.

Combinations with other traits reveal how Force acts in different individuals. Those with large Conscientiousness and large Force will defend the right and oppose wrong conduct and measures with vehemence and power; with large Approbativeness, will stand up for reputation; with large Love of Young, will defend children with spirit and ardor, not only their own children but those needing a protector. I was once walking in the street with a lady possessing both these faculties in a large degree, when suddenly we heard the loud screams of a child issuing from a dwelling near by. The lady with me immediately went into the house without invitation and confronted a mother with an uplifted whip, chastening in an unreasonable manner her daughter, a girl of a dozen years of age. My friend commanded her to cease, and took the whip from her hands, and by talking quieted her rage, and by a judicious course of argument with her got her cooled down to reason, and discovered that this most terrible punishment was the penalty for a very slight offense. The mother exhibited dark complexion and possessed more Force than parental love, while the child's defender was a lighter woman with a good deal of Force and courage, yet with larger parental love than the mother, although not a mother herself. In this case, Force combined with parental love (which is also a force) sufficed to quell a violent and dangerous temper. All faculties are forces. Each faculty sends out a positive force, and manifests its power through the perfection and vigor of the several organs of the body, or by means of the development of the bones, the nerves, the muscles, etc. The more perfect their development, the more powerful their action.

Those with large Force and small Caution are rash, foolhardy, love quarreling, and are always in fights and disputes. *Short-nosed persons*, with a moderate or large muscular system, if possessed of dark hair and eyes, are quarrelsome, rash, and heedless; always in trouble of some sort and are constantly antagonizing all about them. And this same forceful rashness leads them into acts which often eventuate in ill health.

Those who possess small Force should never attempt business requiring nerve, push, and pluck, for they cannot stand opposition and rebuffs. They are too weak to succeed except in the most sheltered positions, and always need an overseer; and are incapable of taking a commanding position. And this suggests the necessity of building up in youth a good muscular system by methodical exercise of all the muscles of the body. Girls and women can gain strength by housework, if not too laborious, while boys can conserve health by chopping wood, scrubbing floors, weeding the garden, and by cleaning the stable and yard. All these works are good for girls and boys, yet no exercise will compare in efficiency with *systematic* gymnastic training under an intelligent teacher. Systematized exercise develops *equally* all of the muscles, while many pursuits develop one set of muscles and leave the rest unused.

RESISTANCE.

Definition.—Aggression, opposition, argument, courage, bravery. endurance; love of violent amusements, such as athletics, etc.

An *excess* results in bullying, useless argument, scolding, idle contention, teasing, fighting, revenge, and brutality. Those possessing an excess are characterized by coarse skin and coarse hair.

A *deficiency* renders one timid, weak, spiritless, and incapable of self-defense, and creates a fretful, whining, complaining disposition.

Facial and Bodily Signs.—A large, round nose; large nostrils; curving of the lower jaw-bone; rounding out of the sides of the forehead; compressed mouth and closed teeth while in action; short, wide teeth, and tushes.

The bodily signs are shown by a short, thick neck; general development of the round muscles, more particularly in combination with square bones. This affords the best structure, both for aggression and defense.

The signs for capacity for mental resistance are shown by large size of the nose and general outward curving of the lower jaw, and prominent chin, as observed in the faces of eminent orators and reformers. The physiognomies of Mirabeau, French orator, and of Frederick Le Maitre, French actor, are excellent illustrations of the sign for mental resistance.

DESCRIPTION OF RESISTANCE.—This faculty, like all the others found in the human organism, is difficult to designate completely by any single word in our language. Sometimes it shows itself by a combative disposition; at others, by resisting assaults, by courage, intrepidity, resolution, and by thoroughness. It gives force to mental energies and physical prowess; it assists the preacher, moral reformer, and temperance lecturer to enforce their ideas in a vehement manner. It also is the power which, when perverted, gives the pugnacious and quarrelsome their force and combative disposition. It is indispensable to every character; it gives presence of mind and coolness of judgment in danger. There is scarcely a day in our lives in which we have not need to invoke its power in some form or other. Life is one long round of resistances. We resist aggressive infringement of our natural and acquired rights; we resist the elements, and erect barriers to protect ourselves against the assaults of wild beasts; we resist the encroachments of disease by applying the remedies with which Nature's great laboratory has supplied us; in short, Resistance gives us the power to *live* under all circumstances. Without it we could neither gain a livelihood nor retain our health. Its excess leads to aggression, bullying, fighting, and war. Some observers give, as one sign of Combativeness, Resistance, or Courage, the ears standing well out from the head. Another sign of the aggressive phase of this faculty is known by shaking of the head from side to side and forward and backward while engaged in an energetic conversation. A short, low nose, with a high and thick pug end, is one evidence of pugnacity. Nearly all the noted prize-fighters whose portraits I have observed have this description of nose, and a very short, thick neck, with great muscular powers generally; but moral courage and resistance spring from an excess of Conscientiousness, and are mightier forces than that sort of

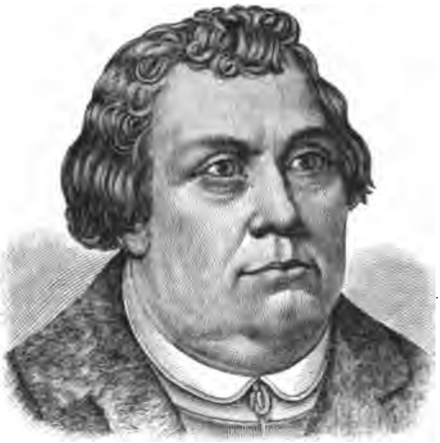

FIG. 58.—MARTIN LUTHER. (PRIEST, AUTHOR, REFORMER.)

Born in Saxony, 1483. Conspicuous facial sign, Resistance, shown by the large and fine development of all the facial features, together with a short neck, broad chest; large, round muscles, and square bones. The law of the straight line, square, and cube governs this powerful and noble face and body. The immense amount of Resistance which Luther needed to oppose the powerful Roman hierarchy at the inception of the Protestant Reformation could not have been derived from intellectual or moral power alone. It required all the elements of a first-class physique, along with his strong moral sense and great mentality. The signs for all the domestic traits are most noticeable, Amativeness, Love of Young and of Country, and are not inferior to Conscientiousness, Firmness, Self-esteem, Modesty, Sanativeness, Hospitality, Alimentiveness, Bibativeness, Approbativeness, and Friendship. The signs for Pneumativeness, Color, Force, and Resistance show that he possessed Courage of all sorts, mental, moral, and physical while the mental traits of Cautiousness, Analysis, Human Nature, Sublimity, Constructiveness, Veneration, Executiveness, Self-will, Language, Order, Memory of Events, Reason, and Intuition are all large. Both the head and body are solid and *cubical* in form.

combativeness or resistance which proceeds from muscular development merely. Executiveness, shown by height of the nose, lends to the character the ability to combat argument and opinions. Every faculty has its own peculiar force and mode of expressing *power*. These different methods of showing force must be analyzed by the reader, else confusion will ensue, and motives will not be comprehended fully. The only method by which we can analyze a trait is to observe the action of the mechanism through which it makes itself manifest. Now, as the muscular system is the main instrument by means of which Resistance is shown, it follows that we must look to this system and its development for knowledge on this point. Roundness or curving, as elsewhere explained, always indicates the predominance of the muscular system; hence it is that when we find the nose thick its entire length, as is often observed in belligerent characters, we know that the muscular system of the entire body is well developed, — so significant are minute facial indications.

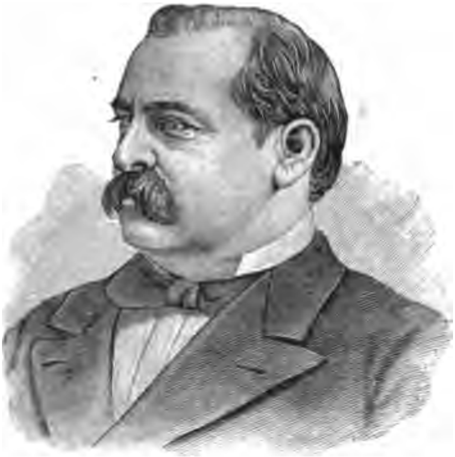

FIG. 59.—GROVER CLEVELAND. (STATESMAN, GOVERNOR, AND PRESIDENT.)

Conspicuous facial and bodily sign, Resistance, shown by a large nose, wide nostrils, width of jaws, thick neck, large muscular development; broad, square shoulders; broad and deep chest. The law of the straight line and square governs this physiognomy. This gentleman's face reveals great determination, and Courage of all sorts, mental, moral, and physical. The vegetative system gives great strength of constitution; while the mental qualities are of a high order. The signs for Human Nature, Analysis, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are very marked. The sense of Order, Time, Memory of Events, and Reason are large; while the faculties of Conscientiousness, Firmness, Economy, Love of Home, Patriotism, Amativeness, Love of Young, Self-esteem, and Friendship are most decided. A character that would be able to meet and withstand great crises.

Not only does fullness of the nose prove the presence of muscle, but it discloses the fact that the large viscera, the heart, lungs, and stomach (all muscular or fibroid organs), are large and vigorous. The heart and stomach are hollow muscles, the heart being capable of more work than any other muscle of the body. The rounding out of the head above the ears is another sign of muscular power, and this rounding form of the head is one reason why the ears of courageous men and animals stand so far out. And, again, large projecting ears are signs of muscular power, as they are composed mainly of muscle and cartilage.

The short, round, thick neck, another sign of Resistance, is evidence of muscular formation, for *muscle tends to shorten* limbs and features, and this member is greatly relied upon both by man and animals in combating and resisting. The action of the muscles of the neck and chest proves this.

The ram, the stag, and bull, all courageous and ferocious creatures, make use of the head for butting, and in this exercise the neck is contracted when about to spring upon their opponent. Butting is not confined to animals. The Southern negro uses this method in his endeavors to resist his antagonist, and men calling themselves civilized sometimes use this method of fighting.

Compressing the mouth and closing the teeth while engaged in active operations, whether peaceable or otherwise, facilitates the tension of the muscles concerned, as well as the action of the heart and lungs, for, says Dr. Cross:—

> It may be proper to remark that all the dangerous passions produce and are expressed by violent *expiration*, while the emotions of fear are expressed by long *inspiration*.
>
> In preparation for the immediate performance of any weighty enterprise we draw in a full breath, and by shutting the glottis hold it in. The glottis then serves a most important part in the performance of any mighty enterprise by enabling us for a time to dispense with the motion of respiration—by converting the whole chest from a *hollow* to a *solid* structure—by giving a mechanical advantage to some of the principal muscles of the arm, and by directly increasing the vitality. All this assistance the larynx affords toward any fair and noble undertaking, but where the *angry* and offensive passions have a place in the undertaking, then the delicate musical larynx, being unable to sympathize, throws wide the glottis, and allows the ebullition of passion to get vent, and the energy, dangerous from such a prompter, to get exhaustion in violent expirations. It is not because the angry man is so rapid and violent in his exertions that he is so frequently overcome by his cooler antagonist, but because the energy is *soon exhausted* by the violent expirations of rage.*

Those whose Resistance takes the form of Combativeness or *Contrariness* shake the head from side to side, or forward or backward, when in earnest conversation. They also step heavily and with force, close doors with a bang, set down articles with emphasis, drop or throw down their boots and shoes in a noisy manner. If a door or anything else resists their immediate efforts to move it they apply force directly, never stopping to observe the situation, and note if ingenuity may not accomplish the desired purpose without resort to force.

In argument they take the opposite side spontaneously, and will argue against the plans intended for their own welfare, seemingly because they cannot help it. One person told me that she always felt like opposing anything which I proposed for her good, yet, after considering it, and being perfectly convinced that it was for her highest good, she would often adopt ideas and plans which she had instantaneously combated. She said, when questioned as to her reason for doing so, that "she just felt contrary without any reason for it."

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* An Attempt to Establish Physiognomy on Scientific Principles, John Cross, M.D., pp. 152, 153.

The impulse to "pull back" seems to be ever present in these characters, and this is yet another proof of the muscular origin of Resistance, for no other part of the organism has the contrariety of motion that characterizes the muscles which move backward and forward upon the bones to which they are attached, and which also permit as much freedom of action in one direction as in another. All persons endowed with a good muscular system are not always contrary, for other faculties come in to modify this trait, but muscular people having the best apparatus for the expression of contrariness display it more generally than those with the bony system predominant. A good illustration of this difference in the two classes of persons is found by comparison of those animals in which the same differences of structure are observable. The carnivorous class, those in whom the muscles predominate over the bones, present the same contrary, changeable, fickle disposition which is characteristic of muscular people. The lion, the tiger, the lynx, the cat, and all other animals of this formation, are given to contrariety and shift and change about with great rapidity, and they are less capable of being trained than the bony animals. This causes *Contrariness*, yet does not produce *Obstinacy*. This is the property of those possessed of excess of bone, as seen in the bull-dog and ass. Yet the horse, the dog, the camel, and elephant, possessing relatively more bone than muscle, are less contrary, more reliable in regard to stability of purpose, more tractable, docile, and teachable.

There are, of course, great differences existing in the several breeds of the same animals. Particularly is this the case in the dog tribes, the greyhound, poodle, and terrier presenting quite different appearances of structure than the St. Bernard, the bull-dog, and mastiff. The latter, although exhibiting a formidable and dangerous appearance, is tractable, gentle, and, unless his master or his master's property is attacked, remains good-natured. Like men endowed with great strength, he is not quarrelsome or given to use his powers unnecessarily, either by barking or attacking strangers, while smaller dogs of less strength and courage will bark and yelp, and by their noisy demonstration endeavor, like human *braggarts*, to gain a character for courage by simple noise, when they have neither the spirit nor strength to overcome an antagonist. There is a deal of human nature in dogs, and we can all pick out the different types of our human friends among them.

Mental resistance is not so marked in its manifestations as is physical resistance. It seems more adapted to overcome obstacles and assist the individual in hewing his way to success, whether it be in the political arena, in the conflict of opinion in debate, in the determination and force necessary to the orator and actor in delineating forcible characters, or in promoting those great reforms which at their inception always meet with immense opposition, and which must be opposed with tremendous moral force and intellectual courage in order to insure their success.

One of the most noticeable features in the faces of the great dramatic orators and actors is the *curved lower jaw*, or, as I choose to designate it, the "dramatic jaw." The curving of the jaw is produced by the curving of the muscle, which causes the relatively smaller bone to curve with it, and curving of the muscles indicates not only constitutional vigor but also creative powers. Curving of any portion of the features of the face denotes superior constitutional vigor, hence the power to *resist* disease as well as circumstances, enemies, climate, etc., is indicated by this formation. Dr. Redfield, in his system of physiognomy, very justly terms the high, curved nose the "aggressive" nose, but he fails to give its philosophy, or to show that such a nose is associated with a powerful *visceral structure* like that of the carnivorous animals, which are particularly aggressive. Their noses are broad, nostrils wide, and their muscular systems predominant. In discerning and analyzing the signs of character we are very much indebted to the animal kingdom for our knowledge, for by comparison with their forms, colors, and qualities we are able to *verify* much in the human family which would be otherwise obscure. Cuvier observed that "the bodies of animals are experiments ready prepared by Nature for man," while Dr. Cross remarks on this subject that "the lower animals, taken as a whole, constitute a rough field of physiognomical inquiry calculated to promote the science in its more refined and dignified application to the human race."*

Large, prominent teeth indicate the spirit of opposition. The same appearance in animals denotes like characteristics, while horns, tusks, and tushes are tokens of its excess, and announce ferocity, cruelty, and brutality, as is witnessed in the behavior of the rhinoceros, the rhinaster, the wild boar, the buck, and the stag.

One phase of mental resistance is shown in debate by caustic, acrimonious, and sarcastic language, and by the expression of impassioned, vehement, and denunciatory sentiments.

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* **An Attempt to Establish Physiognomy on Scientific Principles, John Cross, M.D., p. 11.**

When one is wanting in Resistance he is tame, mild, and conciliatory in speech; he relies upon this tone to win and convince. The most morally-inclined persons with small Resistance will not defend their beliefs with any degree of power, preferring to be thought cowardly rather than take a bold stand for principle. Such individuals are often charged with deceit, treachery, and want of truth because unable to stand up and speak out *decidedly* at the right time. This class are wholly incapable of defending friends and children, preferring rather to shield them and keep them out of danger than to battle for their rights in any way.

Cursing, swearing, and threatening are vulgar forms of its excess. Uncivilized races generally exhibit many of the signs of physical resistance. In these races savagery and brutality are indicated (as in the most brutal beasts) by a thick, coarse skin; coarse, thick hair, and dull eyes. The bear and wild boar are illustrations of this grade. The eyes of a celebrated lion-tamer, attached to a menagerie which I attended, were dull and brutal in expression. When I questioned him as to the capacity of savage beasts to yield to the power of love or kindness, he replied: "They only understand a good beating and respect nothing but superior force." I think this is also true of brutal people.

Tusks and tushes in animals are signs of savage resistance and belligerency, and are never observed in the mouths of the most noble and peaceable animals. Whenever a tusk is exhibited in a human mouth it is indicative of lack of feeling or some form of cruelty or malignancy in the disposition. Fortunately, such appearances are rare in the human family.

SECRETIVENESS.

Definition.—Reserve, reticence, policy, concealment, evasion, and watchfulness. It creates a scheming and managing disposition, often on a very small scale.

An *excess* tends to slyness, selfishness, cunning, deceit, suspicion, falsehood, treachery, craft, and artfulness.

A *deficiency* creates artlessness, want of tact, imprudence and indiscretion in speech, and too much frankness in the discussion of one's affairs.

Facial and Bodily Signs.—Compressed and thin lips; small mouth; half-closed, peeping eyes; very small eyes; shy and sly glances out of the corners of the eyes; furtive, stealthy looks, and long lashes, all indicate different degrees of Secretiveness. Broad, flat nostrils are a sign of secrecy common to negroes and many undeveloped races and certain carnivorous animals. A very subdued tone of voice and a mumbling, indistinct utterance characterize secretive individuals. They never enunciate loudly and clearly except when they are acting a part, and this unaccustomed loudness should be a warning to others. Arched feet and long, curved claws also betoken Secretiveness, as seen in the feline tribes and among the larger beasts and birds of prey.

Description of Secretiveness.—Secretiveness in the animal kingdom is most developed in the lower classes of the carnivora, viz., in those beasts and birds to which Nature has denied either great strength of intellect or great bodily vigor. The deduction, then, to be made in this case is that Secretiveness is a trait of inferiority, designed as a compensation for some deficiency of mind or body; hence, Secretiveness is given to hide the defect and enable the timid and weak animal to both avoid and prey upon his enemies. Without craft and slyness such characters as the snake, the fox, the rat, the coon, the opossum, the hare, and similar beasts would be entirely unable to gain a livelihood. Nature therefore gives them a stealthy, cunning, and suspicious disposition, which in their case is a great protection and assists them in acquiring food.

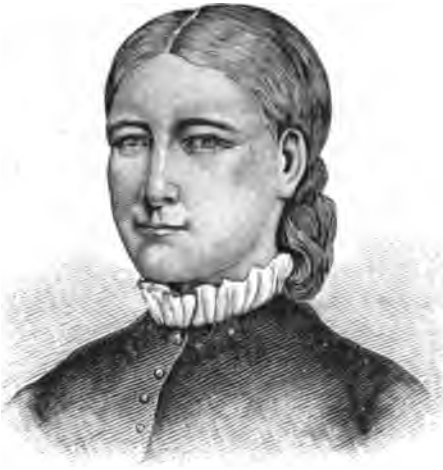

FIG. 60.—MRS. M.

Principal facial sign, Secretiveness, shown by the thin, compressed lips and furtive expression of the eye. The entire expression of this face gives one a good idea of a secretive character; the lips alone announce that this is a dominant trait. The wide-spread nostrils are secondary signs of Secretiveness. Firmness and Conscientiousness are not largely developed. Approbativeness, Friendship, Self-esteem, Alimentiveness, Color, and Force are well-defined. Of the mental traits, Caution, Acquisitiveness, Locality, Veneration, Size, Form, Calculation, and Memory of Events are noticeable.

The logic derived from the observation of this trait in the animal holds good in its application to the human being. In all characters celebrated for their intellectual and moral power we find Secretiveness at its minimum, and replaced by intelligence, reason, strength, and conscience, together with practical and mechanical abilities, which serve to maintain the individual and to enable him to deal with his fellows in a conscientious, unselfish, intelligent manner. Secretiveness in a normal degree is an important factor in human character. Without a *due* degree of secrecy we could not be just to our friends nor plan and manage our own affairs with interest to ourselves. A well-balanced mind, possessed of conscientiousness and good reasoning faculties, will find little use for *great*

Secretiveness for the reason that such minds possess a mental opulence which furnishes them with resources for every emergency, without recourse to concealment, trickery, lying, or deceit. Characters like George Washington or Abraham Lincoln, for example, could maintain themselves in every position and emergency without constant use of this trait. Lincoln possessed a native tact and shrewdness which aided him in many great crises. He also was large in conscience,—another valuable assistant.

The physiological peculiarities of secretive men, as well as of secretive animals, are similar. The flexor muscles are tense and the glandular system somewhat defective, and these defects of structure cause such functional action as to greatly affect and modify the characters of those thus affected. In secretive persons all the sphincter muscles are closely drawn. The orbicularis oris, the muscle which assists the mouth in opening and closing, is tense. The commissure of the eyes is small, giving that half-closed, peeping, furtive appearance to the eyes seen in many suspicious, secretive, and criminal faces. The thinness of the lips is caused by defective glandular development. Smallness of the eyes is owing to a relatively undeveloped state of the muscular system, while the broad, flat nostrils observed in undeveloped races and animals announce relatively large breathing apparatus, for secretive, stealthy acts require ability for controlling the breath while in active operations, and powerful inspiration is essential in the act of springing upon and seizing prey. The same mechanism assists in holding in and prolonging the emotions in all sly, secret, and dangerous enterprises. *Long lashes* are indices of timidity,—a mild species of Secretiveness,—yet they afford a safe retreat for a melting pair

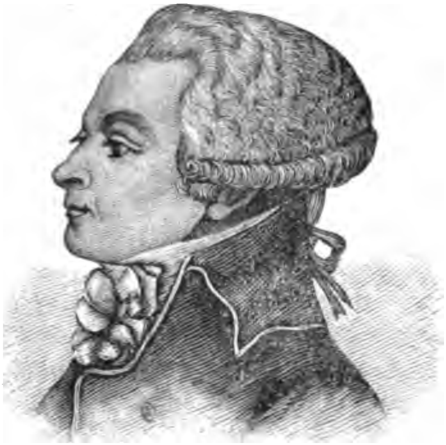

FIG. 61.—FRANCOIS MAXIMILIEN JOSEPH ISIDORE ROBESPIERRE. (LAWYER, ORATOR, REVOLUTIONIST, TYRANT.)

Born in France, 1759. The law of imperfect curvation governs this countenance. The principal facial sign is Secretiveness, shown by small mouth, thin lips, and imperfectly curved nostrils. The lower jaw and the nostrils show imperfect curvation or departures from the normal standards of form. The signs for Firmness, Conscientiousness, Benevolence, Amativeness, Love of Young, Mirthfulness, and Friendship are all below the average. Cautiousness is large; so, also, are Human Nature, Veneration, Executiveness, Language, Self-will, Observation, Form, Size, Locality, Memory of Events, and Reason. The entire expression of the lower part of the face is petty and contemptible, while the upper part shows a strong, selfish, dogmatic will, with considerable mental ability.

of lovely eyes when embarrassed by the fulsome flattery of a too ardent lover.

I have observed the faculty of Secretiveness large in many really good persons, yet destitute of some useful faculty in so large a degree that this trait enabled them to hide its deficiency from most people; but scientific physiognomy will not only unveil the innocent possessors of Secretiveness, but will reveal the guilt of the criminal, and both locate his defect and show for what it is the compensation. One of the most estimable women whom I have ever known possessed this trait in an inordinate degree, yet to a friend in whom she had confidence she would unfold all her thoughts, but let another person come into the room she would instantly become silent. Her need of this trait arose from the fact that she was deficient in many practical faculties and was excessively slow in all her movements and mental efforts. She had a very large brain, with small lungs, yet thought and moved too slowly for practical purposes. The reader can readily see that had she been a garrulous, frank, outspoken woman every one with whom she came in contact could have taken advantage of her plans, and in this case she would have been entirely at the mercy of designing persons, with whom she could not cope by reason of her inability to think and act as quickly as the average person and also through her lack of practicality.

Another subject has large Secretiveness. His defect consists in an utter lack of ability to reason upon or comprehend abstract ideas. Yet show him anything of a mechanical nature, such as machinery in motion, or explain to him mechanical principles which he can *see* in operation, and he is very intelligent in such matters. He is always cautioning his wife not to "talk so much," saying that she will "never succeed," etc. He knows it will not do for him to talk freely, else he would soon betray his ignorance, and so believes that *all* should be reticent. He passes in his circle for a very wise man, and his acquaintances speak of him as a "knowing chap," "a deep fellow," and "one who can keep his mouth closed," etc., etc.

Those who have a large share of Secretiveness always feel that *they cannot* be found out, that their ideas are securely hidden because they do not talk much, hence they think that their plans are perfectly secure from the knowledge of all.

A closely-drawn or pursed-up mouth is an evidence of Secretiveness, if the mouth be small and the lips thin. As the large mouth and large eye are indicative of volume of language, so the converse of this denotes a lack of linguistic power. All orators exhibit very wide mouths and full lips.

Suspicion is the natural outcome of Secretiveness, for a man who is concealing his ideas and plans suspects that others are acting from the same motives; hence, he believes all expressions of kindness cover some ulterior design, and thinks that offers of sincerity are all pretense, and that those who make such offers are actuated by selfishness.

A man, in order to be successful in secret plots and intrigues, must possess a large intellect and a great knowledge of human nature, else his plans will show upon the surface and all his strategy be detected. Such a man was Richelieu, a French statesman and a cardinal of Rome. His face would never have deceived a scientific physiognomist for the reason that his Secretiveness and its compensations were all written in Nature's hieroglyphics upon his face and body. His voice, too, was low and indistinct, and altogether he would have stood a self-confessed intriguer in the presence of a good physiognomist. No need in such cases to ask permission to feel the skull, measure the head, etc.; a few glances, and—behold! the mask is off! One law of physiognomy (most potent in deciding character) shows that those faculties which are dominant or most used are the most apparent in the human countenance, and this explains why astute, crafty, politic, and selfish persons will, under the light of this science, stand revealed, while they believe themselves to be the most secure.

A *moderate* degree of this trait assists one in being prudent, and causes him to restrain his desire to speak of his own or other people's affairs when it would be detrimental to their interests to do so. "A fool," says Solomon, "uttereth all his mind, but a wise man keepeth it till afterward." One peculiarity of cunning people is that they always like to know the business and affairs of others, while they never return a like confidence. Beware of such persons, for they will ever prove detrimental.

Actors, as a class, have very large Secretiveness. It is to them a most essential trait. It enables them to completely hide their own personality—their voice, their walk, and their natural gestures—and assume the entire personality of the character which they wish to personate. To novelists like Katharine Anna Green, who writes excellent detective stories, it is most essential. It enables them to keep back the part of the plot upon which the story hinges and hold the reader in suspense, and retain the interest and mystery until the *denouement*. Wilkie Collins' physiognomy indicates this trait, as do the faces of many other authors.

Secretiveness is very large in the English, and shows in their exclusiveness and suspicion of strangers and travelers. It is much less in the Americans, who are very free, frank, and communicative to strangers. The French are also frank and polite, and enjoy the pleasure which foreigners take in their free conversation.

Secretiveness is large in most priests and physicians. In these it is a cultivated trait, and is most essential to them, for the honor and interests of thousands of families are in their keeping, which to betray would be evidence of great villainy. An open-mouthed physician is to be avoided.

Persons who love to arrange surprises and carry them through successfully possess this faculty. Humor is Secretiveness and Wit combined. It is almost universal among Americans, who also enjoy practical jokes,—another form of this faculty. Americans love *keen* wit, pointed repartee, humorous stories and anecdotes. America has furnished more professional humorists than any other country, and the jokes and sayings of Josh Billings, Mark Twain, Artemus Ward, and Bret Harte are repeated the world over. The English, too, are noted for a fondness for humor, but of a different sort than that which pleases American audiences. A gentleman who has lectured both in England and America told me that he was obliged to change his jokes and stories for English audiences. "They seemed," he said, "not to comprehend the sharp, keen, pointed jokes which delighted the Americans." He was obliged to produce heavier, more solid and ponderous ones for the English. All of which accords with the nature of these two peoples. The English are more solidly built, with more muscle and bone and less sensitive nerves than the Americans; while the latter are keen, sharp, and quickly apprehensive; hence, an incisive, keen-cutting joke or story would be in consonance with their formation and mental construction.

The French have developed many crafty, astute, secretive statesmen and officers. The spirit and genius of their former monarchical government were probably the great formative agencies in their development, although it is not strongly characteristic of the French as a race. Talleyrand, whom Hayden terms "that patriarch of artifice and dissimulation," was a statesman of this sort, and overmatched all his opponents in state-craft. He was possessed of a wonderful degree of the faculty of Human Nature, and an impostor would have to be finished indeed who could impose upon him, for the smallest flaw in his manners, looks, or conversation would reveal the imposition to this crafty and observant statesman. It is related that a gentleman once presented himself to Talleyrand, claiming to be the accredited representative of a foreign court. As his papers of credit appeared to be all right, Talleyrand gave him the usual courteous reception and invited him to a banquet, seating him at his right hand. During the banquet he observed that his guest helped himself to olives with his fork instead of with his fingers, as was the custom in his circle. Upon seeing this he suspected that the man was an impostor, and dispatched a courier to the place from whence the gentleman had professed to come, and found his suspicions verified. The etiquette of the table in polite society at that time required that olives should be taken with the fingers. Talleyrand at once saw that this man was unaccustomed to the usages of a society so rigorous in its etiquette, hence he knew that this slight infraction marked him decisively as belonging to another grade. One moral of this is that so long as governments are built upon tyrannical foundations, as was the government of France, their statesmen will have to occupy themselves with observation of very small affairs in order to keep it going.

Napoleon Bonaparte was most remarkable for his Secretiveness. In him it was the compensation for a lack of *moral principle* and *humanity*. He was intensely selfish on a *large scale*. Sir Walter Scott says of him that "when Napoleon thought himself closely observed he had the power of discharging from his countenance all expression save that of an indefinite smile, and presenting to the curious investigator the fixed eyes and rigid features of a marble bust." Napoleon was a good actor. Of him Pope Pius VII said he was in turn "comediante" and "tragediante" (comedian and tragedian). He was certainly untruthful, unscrupulous, and selfish, and, according to Madame de Remusat, who lived in his family, and who has written memoirs of Napoleon, "he thought any one a fool for speaking the truth when they could make a lie serve." Such a character has need of the check which Secretiveness puts upon the tongue, for openness of speech would have prevented his making his way in the world, and probably prevented his obtaining even a livelihood, for those who frankly avow such immoral sentiments as did Napoleon are shunned and feared.

Generals need a good degree of Secretiveness in order to enable them to hide their designs and surprise the enemy. Yet too large an amount works against and defeats its own purpose. Those generals who have flourished in history as successful in warfare were all endowed with a good share, and General Grant, like Napoleon, evinced far more than the average, and this surplus was undoubtedly the compensation which Nature made to hide some grave deficiency. In this hour of mad hero-worship it would be scarcely prudent to state what that defect is. I leave to my students the task of deciphering the hieroglyphics of character seen in the face of the "Sphynx of the White House," as Mrs. Elizabeth Cady Stanton termed him.

There is an old saying which states that "it takes a rogue to catch a rogue." This is good physiognomical philosophy, for one law of this science declares that "one is best enabled to judge of those principles in others which are strongest in himself," hence it is that in such characters as Fouchè, the Chief of Police under Napoleon, and Allan Pinkerton, a celebrated detective of Chicago, we observe the faculties of Secretiveness and Human Nature very large. It was these traits in combination with large Reason that enabled them to enter into the feelings and minds of the criminal classes, and so to understand and detect their criminal stratagems. The faculties of Human Nature and Secretiveness are both well defined in the physiognomies of habitual and successful criminals, while in the characters of hypocritical confidence-men we find a large share of Agreeability, which, added to the other two traits, enables them to get on the good side of their intended victims, by a plausible, persuasive, winning manner, and thus make them an easy prey. Secretiveness aids them in keeping their own plans secret, while agreeability assists them in singing that song of the crafty yet polite member of the useful *Arachnida* family:—

> "'Will you walk into my parlor?' said the spider to the fly;
> 'Tis the prettiest little parlor that ever you did spy.'"

And while this pleasing ditty is being sung by the confidence-operator, a good physiognomist might be making out a physiognomical chart to present to him as a reward of merit for the fine exhibition of tact, industry, ingenuity, and agreeability displayed in the praiseworthy object (?) of getting an easy living by the mere exercise of his natural powers.

There is no better method of detecting these smooth and fluent conversationalists than by the rules of physiognomy. Ask them to let you feel their phrenological developments, and they would fly from you; but engage them in a short conversation, and while thus employed the entire character of a very secretive individual is laid bare, for, as before remarked, an *excess* of any trait makes a very decided impress upon the face and form, as well as upon the voice, the walk, the gestures, and general appearance.

Prudent, politic persons use the minimum of Secretiveness, and by wise evasions avoid the prying busybody, yet avoid telling falsehoods at the same time. In this instance, intellect, ingenuity, and truth work together to protect their interests, for all have concealments which are essential to their welfare and success, yet not necessarily dishonorable. The merchant must be able to conceal his methods from others, else they might take advantage of them and so forestall him in his enterprises. The lawyer must conceal his clients' affairs and his own methods of procedure until matured. The professional man must use all honorable means to protect by secrecy the affairs of others which have been intrusted to his honor. Secrecy is both necessary and useful, and all well-balanced characters must avail themselves of its powers. Its excess is, as I have shown, the resource of timid, weak, criminal, or immoral characters, and is exhibited by weak, thievish, skulking animals, the prototypes of their sneakish human brothers. Timid children, like timid animals, make use of Secretiveness to avoid dangers. Fear makes them cowardly. Parents can make them liars or truthful, according to the methods employed. A method which I adopted with my children seemed a very excellent way to cultivate truth, by substituting reward instead of penalties for disobedience of rules confessed. For example, I made some slight reward the incentive for the avowal of wrong-doing, such as breaking rules, destroying China, or accidental violations of decorum, etc. My children would bring to me quite readily a piece of broken China, and state how it occurred in the frankest manner possible. For this avowal I would always give a slight reward, at the same time expressing my sorrow at the loss and at the heedlessness which caused it. In this way I made it for the children's interest to be truthful, hence they were never *afraid* to tell the whole truth to me. Moral cowardice in children can be corrected by treating them in a friendly and confidential manner, thus robbing the confession of their little faults of the dread of penalties. Let children see that you believe in them, yet show by your manner that you suffer by their concealing their delinquencies when they commit them. Hold them up to a high standard of truth by example. Let them have confidence in their parents' integrity, and thus you will stimulate their imitation as well as principle. When children are too frank, show them how the family interests suffer by relating family matters which should not be detailed to strangers; also how silly it is to be constantly telling every thought as fast as it comes into the mind. Cultivate their *morality* by leading them to see how wrong it is to relate what has been told them in confidence. You will thus establish in early life a habit of prudent reticence which too frank and too transparent children need.

Large Secretiveness, combined with large Reason and Caution, makes men very adroit in concealing their real ideas and purposes. Such persons express themselves in a very politic and guarded manner, so much so as to mislead others through their lack of precision and directness. With small Conscientiousness combined, they will invariably lie and cheat, first laying plans to cover up their tricks.

Where Secretiveness is about of an average degree the character will exhibit a prudent self-control, yet under provocation will free the mind and give others the benefit of thoughts in regard to them, but with large Cautiousness will hold back somewhat for fear of consequences. Those possessed of moderate Secretiveness are remarkably frank, and not afraid of showing their methods or of speaking their thoughts; they will not use much policy nor evade open expression; yet, with large Caution will look ahead, and are reasonably circumspect in their dealings and speech; with large Acquisitiveness and Conscientiousness, will speak and deal honorably and regard others with confidence; with Force added, are abrupt and speak out decidedly, and with Friendship large they are inclined to assist friends in business as well as socially.

There are very many curious ways in which Secretiveness is exhibited. Some with large Secretiveness will conceal many sides of their nature, as, for example, their love affairs or their sympathetic thoughts, yet will be open in matters pertaining to business or duty; they will defend the interests of morality and urge reforms in a very bold and vigorous manner, and so convey the idea that they are wanting in the softer traits. I once knew a very tender-hearted, sympathetic man, who, to conceal what he considered a weakness, always assumed a blunt, gruff, and abrupt manner of speech, and so earned for himself the name of the "grand growler" in his circle, yet I knew him to be more sympathetic and charitable than many soft-spoken men.

Secretiveness, when it assists men to be diplomatic, politic, judicious, and honorable, is an excellent quality, but when it leads to trickery, dishonesty, lying, and double-dealing it should be restrained. Where there is too much frankness, a too confiding spirit, it reacts upon the character and works injury; hence, prudence and circumspection should be cultivated. Remember that as long as life lasts you will have time enough to tell all that you know, but once having told a secret it cannot be recalled. Be free with friends, but guarded with strangers and indifferent acquaintances.

Take the poet's advice:—

"Aye, free, off-han' your story tell,
  When wi' a bosom crony,
But still keep something to yoursel'
  Ye' scarcely tell to ony."—BURNS.

CAUTIOUSNESS.

Definition. — Vigilance, foresight, prudence, providence, anxiety, watchfulness, wariness, care-taking.

An *excess* is shown by melancholy, anguish, cowardice, irresolution, bashfulness, shyness, timidity, fright, over-anxiety, terror, suspicion, despair, nervousness, forebodings, fretting, and useless fears. It tends to sickness, disorders of the nerves and of the biliary system, to insanity and suicide.

A *deficiency* is characterized by rashness, boldness, assurance, impudence, audacity, and imprudent and injudicious language and conduct.

Facial and Bodily Signs.—Length and *breadth* of the nose is the sign for the highest degree of Caution. Length merely of the nose indicates that sort of Caution manifested by very timid human beings and animals. Long and thin ears, long and thin neck, and long and thin legs are also some of the bodily signs of Cautiousness.

DESCRIPTION OF CAUTIOUSNESS.—The most reliable facial sign of Cautiousness is shown by the length of the nose. Its location is admirably adapted to the preservation of the body, presiding as it does over all the functions of digestion and guarding the avenues of approach to the stomach by its keenness of scent, which soon detects qualities of food unsuited to the sustentation of the body. Not only does it act as sentinel to the stomach, but by virtue of its anatomical structure it guards the lungs from noxious vapors, gases, and all improper atmospheres. Its length assists in warming the air to a considerable degree before it strikes the lungs, while the vibrissæ, or small hairs with which the interior of the nostrils is furnished, prevent injurious particles from entering the lungs.

The fact of the length of the nose being the principal sign for Caution has been noted by other physiognomists. Dr. Cross observes on this subject that

> The nasal apparatus is the porch of respiration and the sense of smell is the sentry; hence, it may be laid down as a general rule that atmospheric air is wholesome or unwholesome in proportion as its smell is agreeable or disagreeable. As odorous effluvia tend upward, so the nose comes to be percipient of substances entering the mouth, and it is found that food is wholesome or unwholesome in proportion as the smell is grateful or ungrateful. The sense of smell, therefore, is superintendent of the breath and assistant superintendent of the food. The nose, then, stands in a double relation,—in the relation of porch or sentinel to the lungs and in the relation of assistant sentinel to the stomach and assistant forager to the mouth.*

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* An Attempt to Establish Physiognomy on Scientific Principles, John Cross, M.D., p. 215.

Short noses are not so efficient in guarding these functions as long noses. There are several reasons for this: In the first place, the nose is not only an indicator of animal organization, but it is likewise the chief facial exponent of *intellect and of physical as well as of mental energy*; hence, the longer, higher, and broader the nose, the more *judgment* and prudence will be displayed, for length and breadth of nose in man and beast is exhibited only by the most superior characters.

A nose which is high as well as long and broad is best adapted to the function of scent, for the reason that the olfactory nerves have room for greater expansion, hence the nasal ganglion is more powerful than where its space is restricted. Those races that possess the broadest, highest, and longest noses exhibit the most prudence, foresight, and watchfulness, and entertain as well the broadest views of life and its affairs. The Hebrews, among the civilized races, possess in a remarkable degree all these attributes. So far-sighted is their intellectual grasp, and so broad are their views of worldly affairs, that the majority of them are well provided with this world's goods, and beggars of their race I believe are wholly unknown. I have never seen or heard of one. They also possess all the physiological traits which accompany this formation, exhibiting predaceous energy, keenness of scent, and fondness for fine odors and flavors. They are good judges of food and immoderately addicted to the pleasures of the table. They also exhibit various mental traits which often accompany large Alimentiveness, viz., rapacity, love of domination, and marked social and domestic qualities.

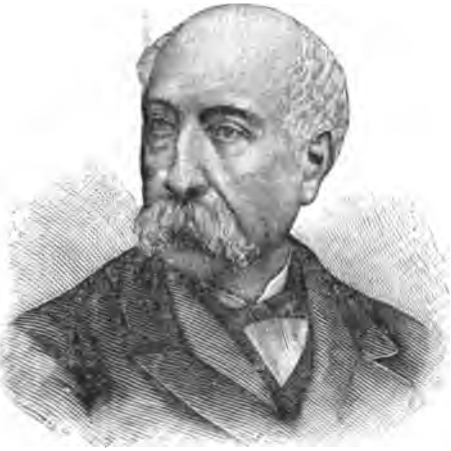

Fig. 62.—SIGNOR CRISPI. (Prime Minister of Italy.)

Conspicuous facial sign, Cautiousness, shown by length and breadth of the nose. The law of the straight line and curve governs this face. The development of Cautiousness as displayed in this countenance gives evidence of an astute and far-sighted character. The domestic traits are well defined and the intellectual of the first class. The signs for Firmness and Conscientiousness are of average size. Patriotism, Love of Home, Love of Young, Amativeness, and Benevolence are well manifested; while Human Nature, Ideality, Sublimity, Acquisitiveness, Constructiveness, Analysis, Mental Imitation, Veneration, Executiveness, Self-will, Observation, Language, Reason, Memory of Events, and Intuition are very large. Altogether they form the portrait of a very capable executive, and judicious individual.

The same traits are characteristic of the carnivorous class of animals, as distinct from the graminivorous class. The nose and nostrils of the lion, the tiger, the dog, and other carnivorous animals are broad, high, and long as compared to the noses of the sheep, the giraffe, the deer tribes, the rabbit, and hare. The former are aided by their sense of scent and superior strength and intellect, while the latter have to depend more upon their activity or timidity than strength for their safety and livelihood.

The ganglia of the olfactory or nasal nerves are furnished with a coloring pigment, and, according to the laws of color which obtain in the human as well as in the animal organisms, the more color, the more power. It will be observed that the carnivorous class of animals are quite dark in colors, or, if mixed, the darker hues predominate; therefore it is logical to infer that they are better adapted to scent, and can scent at a distance better than the long, thin-nosed, graminivorous animals. All Nature confirms this principle of form. The greyhound possesses a long, thin, watchful, timid nose, but is comparatively destitute of the sense of scent. Rev. J. G. Wood says of this animal:—

> The narrow head and sharp nose of the greyhound, useful as they are for aiding the progress of the animal by removing every impediment to its passage through the atmosphere, yet deprive it of a most valuable faculty,—that of chasing by scent. The muzzle is so narrow in proportion to its length that its nasal nerves have no proper room for development, and hence the animal is very deficient in its powers of scent. The same circumstances may be noted in other animals.*

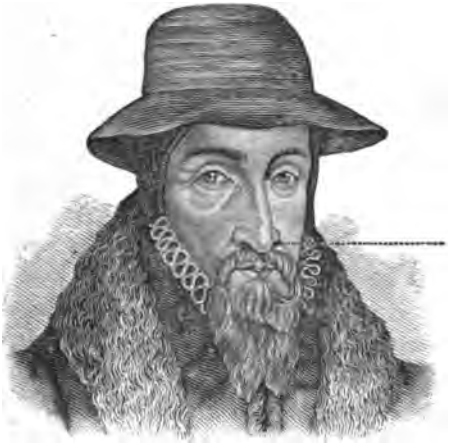

FIG. 68.—JOHN FOX. (AUTHOR AND DIVINE.)

Born in England, 1517. Conspicuous facial sign, Cautiousness, shown by disproportionate length of nose. The law of the straight line and angle governs this face. Truthfulness and sincerity certainly shine forth from these eyes, which are set true and straight under the brow. The chin is hidden, yet comparative anatomy assists in discovering what is beneath the beard. Conscientiousness, Firmness, Love of Home, Love of Young, Amativeness, Benevolence, and Patriotism are large; while Friendship, Approbativeness, Alimentiveness, and Bibativeness are only average in development. The mental powers are excellent. The signs for Mental Imitation, Analysis, Ideality, Sublimity, Acquisitiveness, Constructiveness, Veneration, Executiveness, Self-will, Form, Size, Observation, Calculation, and Language are large. The nose, broad at the bridge, discloses logical capacity. Altogether, a moral, upright, and intelligent countenance.

The noses of all carnivorous animals are relatively broad, especially at the point where are located the olfactory ganglia and plexuses,—that is to say, at and near the junction of the nose with the forehead, where branches and filaments of the olfactory nerve ramify upon the septum and nostrils, and here assist the sense of smell, as this is the peculiar office of this nerve. Therefore, where we observe breadth of the nose above the "bridge," and also where the nostrils are very broad, as in the lion and in many human beings, we shall find superior power for guarding the avenues of approach to the great vital cavities,—the stomach and lungs,—hence Cautiousness, foresight, and judgment are the result.

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* Wood's New Illustrated Natural History, p. 51.

The long, high, thin or narrow nose discloses Cautiousness, but of the timid sort, as observed in the formation of the noses of all or most of the herbivorous tribes. The long-eared hare and rabbit are illustrations of the sort of Cautiousness given to the timid and weak. They possess long, sensitive ears which convey sounds to them, not only from a long distance but those which are made near them, and their superior powers of activity enable them to easily elude their pursuers, whether human or animal. The long-necked giraffe is another excellent illustration of this trait. The superior length of its neck aids the animal to look over intervening obstacles and thus it insures its safety by flight, which is its method of self-protection, being relatively weak and timid like other long-eared, long-legged animals. Another wise provision of Nature is seen in the entire absence of voice. Wood states that "the giraffe has never been heard to utter a sound, even when struggling in the agonies of death." Were the giraffe a noisy animal he would be always in danger, by calling attention to himself and thus be exposed to the attacks of wild beasts. The camel evinces a good deal of cautious foresight, and exhibits its physiognomical indication by long legs, slim neck, long nose, and broad nostrils. The reindeer is a wary and sagacious animal, and possesses the sense of scent in a greater degree than any other animal. Its width of nostril is quite a conspicuous feature. The fallow deer, the red deer, and wapiti evince great Cautiousness, and their long ears, long necks, and long, slim legs are the outward indications of the timid, sensitive, and cautious mind within.

Lavater, in his criticism of animals, speaks of the "art and discretion exhibited in the proboscis of the elephant." This is a most just observation, for watchfulness and foresight are the peculiar attributes of this animal, and sound judgment as well. Nature, in creating so huge and bulky a creature, was obliged to give such traits as would enhance its safety. What then could she give but a large degree of Cautiousness, Judgment, and Foresight? All these faculties are exhibited in a marked manner by these animals in India, where they are employed in various mechanical and warlike enterprises, where their fine qualities of mind are used to advance man's interests. In this creature, caution is balanced by reason, hence he is not suspicious, but watchful. "In all work," says Mr. Wood, "which requires the application of great strength combined with singular judgment the elephant is supreme."

Cautiousness is a universal faculty and is useful in all the walks of life, giving vigilance, providence, and discretion to character. It is allied to Alimentiveness, for it assists in looking ahead and by foresight accumulates and stores up for a rainy day. It is an assistant of Acquisitiveness, as it guides this faculty in the acquisition and care of money, property, etc. All of the higher mental faculties are indebted to its influence in causing them to refrain from hazardous and risky enterprises, in order to prevent future trouble. Cautious persons seek advice from those who have had experience, while short-nosed, incautious characters rush into all sorts of dangers and enterprises in a reckless fashion, unheeding the warnings of those more experienced. If possessed of small Caution and large Force and Resistance and only average Reason, they will be constantly embroiled in disputes and quarrels, because unable to control the temper, and, possessing no Caution, will give loose rein to the tongue and sometimes to the fist and pistol. Those of this combination are perpetually meeting with what they term "accidents," in which they succeed in getting cuts, burns, and falls, and are often engaged in disastrous adventures. Bullies, braggarts, and loose, unreliable talkers are lacking in Caution.

An excess of Caution is more universal in America than among Europeans. It is caused by the greater degree of delicacy of the nervous system which this climate produces and which causes fear, apprehension of bodily injury, timidity, and nervousness. Women are far more cautious than men. The conservative nature of woman, as the mother and care-taker of the young and guardian of the family, results in more caution and also adds foresight and prudence, and for this reason most mothers are better able to disburse the family funds than the father. The anxiety for the future welfare of the family causes care and providence in the disposition of money and in storing up for emergencies. Children are usually more cautious than adults, and in many its excess creates groundless fears and great mental suffering. Weak, timid children should be trained in a gymnasium with the view of making them more courageous, strong, and self-willed, which result can be produced by developing all the muscles until they dominate or equal the nervous system. Driving, rowing, swimming, and all athletic sports assist in developing courage and give force and decision to the character. Associating with the strong and courageous is another method of imparting confidence to the irresolute. It engenders a desire to imitate, and, as the weak admire the strong, they will endeavor to follow their example if thrown constantly in their society.

It is a law of human nature that all admire most those qualities in others in which they are themselves deficient. I have known many weak and timid women become expert and courageous horsewomen by practicing driving, when formerly they had suffered tortures in a short drive for fear of some accident. Nothing overcomes fear as thoroughly as experiment and intelligent comprehension of the nature of the thing feared. Children are often injured beyond recovery by forcing them into the water against their wish. When it is desired that they should be taught bathing and swimming they should be allowed to enter and leave the water at their own pleasure, and gradually, by easy stages, they will lose all fear of it, particularly if they enter with more courageous children. They should never be "ducked" to furnish amusement for some "tease," who thinks it great fun to hear the poor little things scream. Such methods are *criminal*, and should never be pursued with timid children. Frightening them by bug-a-boo stories also increases their fear and induces nervous disorders.

A good, sound whipping as a punishment hurts a child far less than threatening them with mysterious and occult beings, or shutting them up in dark rooms, for these methods have been known to produce convulsions and loss of reason. The force of example is well illustrated in the conduct of two mothers whom I knew in my childhood. One, on the approach of a thunderstorm, took her children out upon the porch and watched with great enjoyment its approach, and entered the house only when driven in by the rain. They all seemed to derive great pleasure from the scene. The other mother, on the approach of a storm, gathered her children together in an agitated and terrified manner and plunged them between feather beds under the mistaken notion that "lightning never strikes feathers." They would remain thus half stifled and emerge weak and trembling only after the storm had passed. The children of the latter family upon reaching adult life pursued precisely the same methods in their families, and thus trained their children to be cowards instead of training them to be courageous.

Shyness is one manifestation of Cautiousness. A sensitive, nervous system by its keenness of sensation causes one to be careful and watchful of dangers, and also promotes care for health through dread of suffering.

Slyness is often caused by extreme Caution, and is cultivated in children by injudicious methods of discipline, by too many penalties, and by constant threatenings for all sorts of small offenses. Secretive children are also sly, but this is spontaneous and inherent, while many children are made sly by their parents' threats of penalties and constant fault-finding.

The normal action of Cautiousness is manifested in the highest degree by persons possessed of good intellects and practical faculties. In the faces of such persons will be observed length, breadth, and height of the nose. In these cases Caution takes on its *highest phase of action*, and a common-sense view of affairs is exhibited, and reason, judgment, and prudence preside over all their mental processes.

When Caution is indicated in an individual as a compensation for the lack of some other important faculty, decision and judgment will be less promptly manifested, hence all the acts will be slower and more uncertain, and as great a measure of success as in the former cases must not be expected. An *excessive* length of nose in relation to the other features denotes excessive Caution, and also shows it to be the *compensation for the absence* of some other faculty. By observing the relative proportions of the features this deficiency can be easily discovered. In some subjects it is caused by deficient Self-esteem. In these cases a short upper lip will disclose the reason. In other characters there may be deficient Conscientiousness. A narrow chin will reveal this want. If Reason is feeble the nose will not be broad and high, but may be high, thin, and narrow, especially at the "bridge."

Absence of the practical faculties is often shown by a compensatory degree of Caution. Where a knowledge of human nature is deficient, Cautiousness is often present and protects the character from too great confidence in others; hence, suspicion is the result and thus acts the part of protector; or, if Friendship be lacking, reserve and guardedness in dealing with others will be displayed. In some instances, where the brain is very large and slow in its action (by reason of smallness of the thoracic system), the mental processes are correspondingly feeble and dull of apprehension. Here Caution comes in and assists the character by its prudential outlook, and thus averts and avoids dangers by that slowness of mind and body which is at the same time a failing and a compensation. Self-control and self-denial, restraint and prudence are the results of a normal, balanced degree of Caution.

Rashness, imprudence, and foolishness show the lack of this most useful trait.

> "Reader, attend ! whether thy soul
> Soars fancy's flights beyond the pole,
> Or darkling grubs this earthly hole,
> In low pursuit,
> Know, prudent cautious self-control
> Is wisdom's root."—BURNS.

HOPE.

Definition.—Anticipation, expectation, joyousness, confidence, cheerfulness, buoyancy of spirits, belief in future success and advantages, prospective good, inclination to believe and work on in spite of innumerable obstacles.

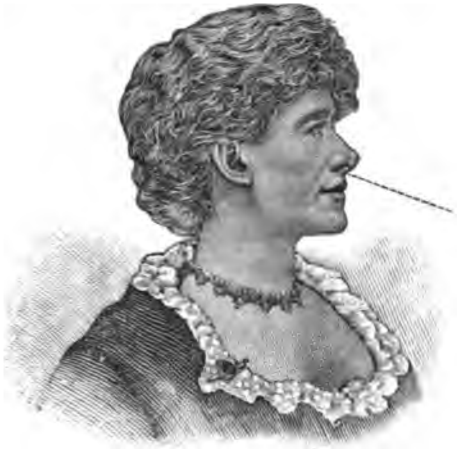

FIG. 64.—ELLEN TERRY. (ACTRESS.)

Born in England, 1848. Conspicuous facial sign, Hope, shown by downward projection of the septum of the nose. The law of the curve and straight line governs this face. The dominant expression of this countenance is sharpness, keenness, penetration. The signs for Firmness, Conscientiousness, Love of Home, Patriotism, Economy, and Benevolence are exceedingly well defined. Love of Young and Amativeness are conspicuous. The nose exhibits the signs for Hope, Analysis, Ideality, Mental Imitation, and Human Nature highly developed. Constructiveness, Acquisitiveness, Veneration, and Self-will are marked. Observation, Form, Size, and Language are large, and altogether combine to produce a first-class artistic mind. The quality is exceedingly fine.

An *excess* imparts enthusiasm and gives belief in impracticable plans and projects; inclines one to speculations, and "sees millions" in every invention and enterprise in which one becomes interested.

A *deficiency* causes lack of success, hopelessness, melancholy, gloomy thoughts, and dejection, and is often accompanied with liver complaint, and tends to dementia, insanity, and suicide.

Facial and Bodily Signs.—The most prominent facial sign for Hope is the downward projection of the septum of the nose below the alæ, or wings of the nostrils. Brightness of the eyes; bright, clear-colored, and fresh complexion; full cheeks, plump body, springy step, vivacious and cheery manner are also indications of the presence of Hope and are caused by activity of the liver. Drooping of the corners of the mouth, dullness of the eyes, together with a thick skin and muddy complexion, point to enfeebled action of the liver and a consequent deficiency of Hope. Where the septum does not project below the alæ, or where it recedes above the sides of the nostrils, we have an unfailing indication of a week and torpid liver, together with a mind tinctured with hopelessness and despondency. The modifying effects of Mirthfulness and Approbativeness often assist this condition and partially neutralize its depressing influence.

Description of Hope.—The methods formerly employed by sentimentalists in treating of the affections, emotions, and passions in a poetic, romantic, and metaphysical manner have led to most erroneous ideas in regard to the origin and physiological basis of mental powers. To those who have been accustomed to view the mind, with its numerous powers and passions, such as love, hope, imagination, etc., as an entity separate from the body and connected with another vague entity termed the "soul," floating about somewhere in space, the connection of the emotions and passions with physical organs will seem like sacrilege. To this class let me state that a thorough analysis of natural laws will alone free them from this error, and the poetic flights of the rhapsodist upon the nature of love, hope, etc., will not seem half as enchanting as a cool, keen, scientific analysis of these traits. It is easily demonstrated that Hope is most largely developed in those who possess a vigorous and normally-acting liver. Where this viscus is normally active the eyes are bright, the skin clean and clear, the voice cheerful, the brain active and analytic (according to the grade of intellect manifested in each individual), the step brisk, and the disposition hopeful and confident and ready to attempt any difficult project. Hope is a grand sustainer of life, and when we transmit to offspring a vigorous, normal liver we endow them with a precious inheritance.

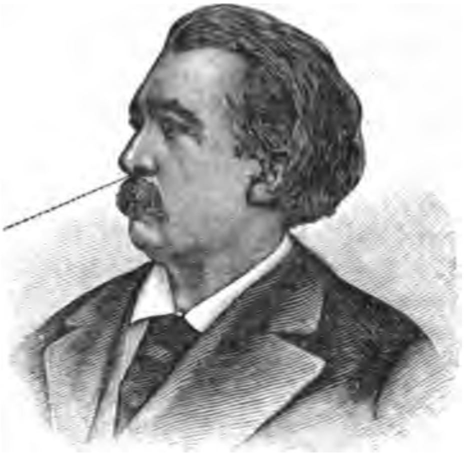

Fig. 65.—PAUL GUSTAVE DORÉ. (Historical and Allegorical Painter.)

Born in France, 1833. Principal facial sign, Hope, shown by downward projection of the septum of the nose. The law of the straight line and curve governs this countenance. The social faculties are well represented in this face. Alimentiveness, Hospitality, Friendship, Approbativeness, Love of Home, and Patriotism are all well defined. In the nose the signs for Hope, Analysis, Sublimity, Ideality, Mental Imitation, Human Nature, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are highly developed; while Prescience, Credenciveness, Observation, Form, Size, Color, Calculation, Locality, Order, Intuition, Artistic Judgment, and Reason are exhibited in a talented degree. Doré was one of the most original, weird, awful, quaint, and prolific of artists. The hair, by its form and manner of growth, denotes artistic capacity. The quality is very fine.

Hope buoys up the mind under adversities and troubles of all sorts and shows a silver lining to every cloud. It makes one believe in "a good time coming," and thus encouraged one works with a will, and hence is enabled to bring about just the state of affairs hoped for. Hope is noticeable in the physiognomies of most very aged persons. It directly promotes longevity, not only by the vigorous action of the liver, but by the *sustaining power of its associated sentiment*, which is ever pointing onward and upward. Hope is most decided in the countenances of all eminent artists, actors, poets, littérateurs, and inventors. In disease no faculty so sustains and encourages the patient, and in this manner an active liver and the sentiment of Hope together are instrumental in promoting recovery. In fact, the action of every well-developed organ is remedial, not only by reason of its physiological action, but also through its effect upon the mind,—a reciprocal action which is now getting to be better understood than formerly. The science of physiognomy teaches that if we would live more nearly in accord with hygienic law we should have very little use for doctors. This faculty and function can be kept in a normal condition by an intelligent and persevering course of diet and sensible modes of dressing. Sufficient fruit-juices should be taken into the stomach, and sugar, except as found in fruits, grains, and vegetables, should be avoided. Then, too, the clothing should be sufficiently loose and easy in order to give the lungs, heart, and liver room for needed expansion. We can no more induce a hopeful, cheerful state of mind by inculcating hopefulness as a *duty* than we can become truly conscientious by studying truth as a moral sentiment merely, without regard to the condition of the liver and kidneys. Conscientiousness proceeds from a well-developed and normally-acting kidney system, and Hope from a well-developed liver. If we attend to the physiology of these two organs, I fully believe that the associated sentiments of Conscientiousness and Hope will take care of themselves, and evolve a moral and hopeful disposition as a consequence of normal and healthy action and development. Man is certainly created perfect, or we should have no *normal type* or standard of any organ or function. The imperfections we observe are all of man's creating, caused either by willful or ignorant violations of natural physiological laws. If it were not for the action of a law which endeavors to make each newly-created being return to a normal standard, the race would have run out and become extinct ages ago—through an exaggeration of diseases and misuse of the organs.

Dr. Felix Oswald happily expresses this law in the following words,

He observes:—

> Every birth is a hygienic regeneration. The constitutional defects which degenerate parents transmit to their offspring are modified by the bequests of an older world.

Where the *septum of the nose* is observed to be *even* with the alæ, or wings, we shall find, first, an organism with a small liver, or an inert condition of the liver, together with a steadily-increasing tendency to melancholy as age advances; also, oft-recurring bilious diseases. In such individuals, the mind reverts to disease, disaster, death, and similar gloomy subjects. They can see no hope in anything. Every business enterprise is, in their minds, foredoomed to failure. They hardly think it worth while to commence any project, so certain are they of non-success. The only remedy for these victims to an inherited weak liver is an active, stirring life, a dietary suited to their condition,—abstention from sugar,—together with plenty of active out-door exercise, and the companionship of the joyous, cheerful, and light-hearted. This course may not completely eradicate the abnormal tendency toward melancholy, but will make life more enjoyable, more useful, and successful.

The localizing of the principal facial sign for the liver is noteworthy. Its position between the local signs for the heart and lungs (wide nostrils) teaches us somewhat of its physiological relations, inasmuch as the action of the heart and lungs is greatly assisted by the action of the liver; and as all these organs are so placed and connected in the body as to mutually assist each other, so we find in the intimate placing of their signs in the face a remarkable proof of Nature's method of throwing out physiognomical signals which are confirmed by both logic and observation.

Temporary disorders of the liver result in gloomy, depressed conditions of the mind, while restoration of its functions brings a return of the usual cheerfulness. So different are the mental effects of a disordered liver from those produced by a diseased heart or lungs that medical writers in all ages have noted them, yet have failed to connect them with physiognomical signs. Of the differences in mental states induced by disorders of these different organs, Dr. Maudsley observes:—

> I come now to the thoracic organs. The heart and the lungs are closely connected in their functions so that they mutually affect one another. Some diseases of lungs greatly oppress and trouble the heart, yet there is reason to believe that they have their *special effects upon the mind.* How, indeed, can we think otherwise, when we contrast the sanguine confidence of the consumptive patient with the anxious fear and apprehension exhibited in some diseases of the heart?*

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* Body and Mind, Henry Maudsley, M.D., p. 85.

The following, previously quoted from Dr. Maudsley, is to the point, and I here reproduce it in order to emphasize the *intimate relation existing between the function of the liver and the mental sentiment of Hope.* He remarks:—

> Anger, disappointment, and envy notably touch the liver, which in its turn, when deranged, engenders a gloomy tone of mind, through which all things have a malignant look, and from which, when philosophy avails not to free us, the restoration of its functions will yield instant relief.*

A good, clear, fresh-colored complexion is one sign of the presence of Hope. It is incumbent upon us, if we would enjoy this truly *religious sentiment*, that we study and work to prevent clogging of the biliary system, for hopelessness and dejection are opposed to a truly religious state of mind. Hope in the future is an especial attribute of the religious belief of all civilized religions; some savages even share with the most advanced races this universal sentiment of a blissful future state as the inheritance of the righteous, and, as I have shown, Hope is a sentiment which not only assists us in combating disease, making health more firm and sure, promoting longevity, but also carries forward the mind to higher and more exquisite enjoyments of anticipation in the contemplation of scenes of heavenly rest, purity, and progression. In these sentiments it seems to me all right-minded and benevolent persons must share, whether Christian, Hebrew, Pagan, Agnostic, Spiritualist, or Liberalist. The following poem expresses the Indian's belief in the future, and proceeds from a development of the faculty of Hope:—

I go to the Isles of the Great Manito,
Whose shores through the mist I distinguish e'en now;
I shall hunt in the mountains and fish in the streams
Of the land that I often have seen in my dreams.

There shall I hold in my fondest embrace
The braves and the chiefs of my nation and race;
They shall applaud me, and welcome their son,
And boast of the heroic deeds he has done.

Spirit of evil, thou never canst go
To the far happy land of the Great Manito;
Spirit of evil—spirit of pain—
Farewell—we never shall meet again.

There is in the above as fine expression of future rewards and enjoyments as is to be found in the beliefs of the most advanced religionists.

There is every reason to believe that Hope as a sentiment assists in prolonging life, while at the same time it looks for a future state of happiness. The faces of nearly all of the aged whom I have observed have the sign for Hope and the liver well defined. How can it be otherwise when we see how essential to good health is the continued activity of the liver.

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* Body and Mind, Henry Maudsley, M.D., p. 38.

Hope is a sustainer of life and health by causing the mind to continually anticipate good results, and by preventing the mind from apprehending disasters. This thought is well expressed in the following:—

> "Had some good angel op'd to me the book
> Of Providence and let me read my life,
> My heart had broke when I beheld the sum
> Of ills which one by one I have endured."

All the conditions of life require and must have in them a large share of the element of Hope. This is as true of our pleasures in anticipation as it is of business enterprises, intellectual labors, artistic successes, and domestic durability. The business man needs its inspiring influence to buoy him up when putting his thousands into a business venture, yet he must have a balance of the *practical* faculties and reason, in order that he shall not be too sanguine of success in face of improbabilities; and if business reverses come, and all seem lost, Hope comes to the rescue and puts him on his feet again, and anticipates better fortune next time.

As an active liver keeps the brain clear and unclouded, it gives a *sense of power* and a desire for enterprise,—for pushing ahead in adventurous schemes. An active liver clears the brain to the extent of causing one to be inventive, ingenious, and fertile in resources. Not only is this remarked in business men, but it is pre-eminently the attribute of artists, writers, sculptors, actors, and the creative classes generally. Large Hope assists the dominant tastes and faculties, whether these faculties tend to art, science, or commerce. Hope is one of the *impelling forces* in *discoverers, navigators, travelers, and adventurous spirits*, who are always looking for

> "Some happy island in the watery waste,"

and often find what is desired through the exercise of that perseverance which Hope has inspired. "Hope tells a flattering tale," and if they fail in one enterprise they see something just as alluring in the next one, and, whether it be California gold or South African diamonds, they always see a fortune just ahead to be had for the taking. It is sad, however, to see one unbalanced by excessive Hope, for this leads to failure and disappointment. Those who have an excess should take counsel of more practical persons, and have for a partner one who has a balanced degree of reason and experience.

The physiognomies of the majority of successful artists, actors, merchants, and leaders of great enterprises exhibit large Hope.

Those whose Hope is greater than Caution, with deficient Practicality, rush into wild speculations, and of course meet with heavy losses or disasters. Those possessed of large Hope, Self-esteem, and Approbativeness, together with good reasoning faculties, are capable of great enterprises, and will take hold resolutely and carry the work through; with large Acquisitiveness, they will lay successful plans for money-getting; and with Hope allied to Conscientiousness, Credenciveness, and Veneration, they will exhibit great religious and moral character, and will look forward to a future state of enjoyment with an unfaltering confidence.

Whatever trait is useful and ennobling to the human race has its place in the physiognomy, and sets a sign of beauty there. The sign for the liver and Hope causes the outline and proportions of the nose to be more beautiful than where it is lacking. The noses of most eminent writers, artists, poets, and enterprising persons generally present this peculiar formation of the septum of the nose. The numerous classic works of art in paintings and statuary exhibit this formation. The masters of art, taking their models from the most talented people, of course found this peculiarity present, and reproduced it without understanding either its mental or physiological significance and importance. In this instance, art-beauty and scientific beauty are in accord.

Examine the countenances of Julius Cæsar, general; Sarah Siddons, actress; Arkwright, inventor; Lavater, physiognomist; Canova, sculptor; Adam Smith, philosopher; the first Duke of Marlborough, warrior and statesman; Sir Isaac Newton, scientist; Sir Matthew Hale, jurist; Thomas Jefferson, statesman; Thomas Moore, poet; Corneille, poet; William Blake, painter, and we shall find that they all exhibit the sign for Hope. There are thousands of other eminent men and women whose countenances indicate its presence. Let the reader make observation of large numbers, and note among his acquaintances those possessed of great Hope, and he will observe its accompanying physiological and mental peculiarities.

The faculty of Hope is shared with the animal kingdom, as their acts testify. They are capable of expectation, both of rewards, pleasures, and punishments. Dogs look forward to the return of their masters and anticipate their approach with every demonstration of delight, and exhibit their sense of Time, also, by going a distance in the direction from which they usually return.

ANALYSIS.

Definition.—The ability to separate, classify, and suggest changes and note differences. Analysis, according to Webster, is "the tracing of things to their source and the resolving of knowledge into its original principles." It tends to practicality, ingenuity, invention, resource, and fertility of expedients.

An *excess* gives a tendency to be hypercritical, captious, and fault-finding without reason.

A *deficiency* is shown by inability to separate, classify, and re-arrange ideas and principles, also the elements and constituents of literary, musical, and art ideas; and in mechanics it shows by failure to comprehend the elements of mechanical forces and their combinations and effects.

Facial and Bodily Signs.—The presence of good analytical ability is shown by the drooping downward of that portion of the nasal septum just forward of and adjoining the principal mental sign for Hope,—that is to say, the centre of the nasal septum. Another and a secondary sign is shown by a slightly receding forehead, together with a high and relatively long nose. Although many musical noses are short, yet they indicate the sort of analysis adapted to the comprehension of musical laws and principles. Mechanical analysis is best developed in those in whom the bony system is slightly in the ascendency, combined with a good muscular development. Analysis of a *practical phase* is also observed where the bony system is one of the dominant systems. The physiognomies of Porta, Julius Cæsar, Byron, Dickens, Shakespeare, and Sir Walter Scott exhibit large Analysis. The sign for Analysis lies close to the sign for the liver and thus indicates its origin. Where the septum does not project below the alæ or sides of the nostrils it denotes a torpid liver and a deficiency of analytical power.

DESCRIPTION OF ANALYSIS.—The ability for analyzing is universal in civilized races and not lacking in the animal. It endows the character with the ability to suggest inventions, improvements in art, mechanism, music, human nature, and literature. It assists the chemist, the mathematician, and astronomer. It is accompanied by a fertile, suggestive, criticizing mind, and is ever ready with expedients and resources. Its action is affected by the development of the liver, yet not in the same degree as is Hope. The physiognomies of La Place, Dr. John Hunter, Dr. Jenner; Canova, the sculptor; Sarah Siddons, actress; and Roebling, engineer, all exhibit this sign well defined. The faces of thousands of others eminent in all the active walks of life bear the facial record of this trait in unmistakable characters. Its physiognomical base is not to be doubted. That the high development and normal action of the liver give clearness to the inventive mental processes, all ingenious and fertile-minded characters attest. Show me a man with a weak, undeveloped, torpid liver, and I will show you a character that is deficient in the capacity to invent or to analyze well in *active* art or science. Even *temporary* inactivity of the liver, in those who have inherited a normal development of this organ, prevents for the time being that clearness of thought and power to reason upon principles which are characteristic of the mind in a state of perfect health. Although it may not cloud the memory nor the sense of Locality, of Language, of Music, of Form, of Veneration, of Modesty, of Love of Young, or other faculties, yet the power to suggest, invent, and mentally classify will be weakened for the time being, or until the functional activity of the liver is restored.

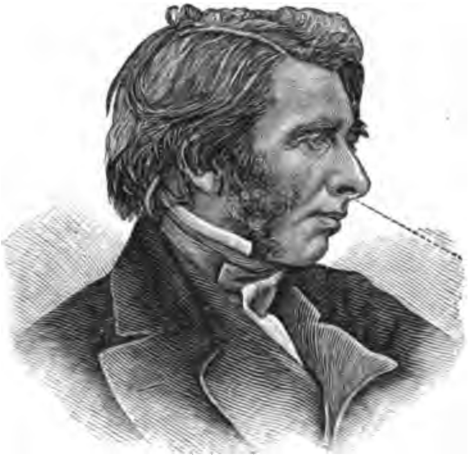

FIG. 66.—JOHN RUSKIN. (AUTHOR, ART CRITIC.)

Born in England, 1819. Conspicuous facial sign, Analysis, shown by downward projection of the centre of the septum of the nose. The law of the straight line and curve governs this face. The domestic faculties in this character are unevenly developed. Firmness is measurably deficient, but Love of Home, Love of Young, Patriotism, and Benevolence are all well defined, while Friendship is only of average size. Self-esteem is large. It is from the size and shape of the nose added to high quality that we derive our knowledge of the mental power and bias of this artistic mind. The nose is of large size, nostrils wide and nose thick at the lower third, as all artistic noses are; it is high at the bridge, showing power for command, and the septum is drooping. Let us translate these forms and this combination into character: Height of the point of the nose from the plane of the face shows Human Nature; the droop of the septum, Hope and Analysis; at the under, the express tip, we find Mental Imitation large; while in close contiguity are the signs for Ideality, Sublimity, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will all conspicuous; and Language, Observation, Locality, Size, Form, Memory of Events, Prescience, Order, and Time are well delineated. The hair in the arrangement above the forehead shows inventive capacity. Altogether the make-up of a fine artistic character.

The capacity for analyzing is most essential to scientists, such as chemists and physicians. It assists by its suggestive power the discovery of new principles and combinations. It is one of the indispensable traits toward a correct comprehension of Human Nature, whether in the physician or physiognomist. I could not conscientiously recommend any one to attempt either of these professions who was greatly deficient in this gift. It is adapted to the comprehension of natural laws and unfolds the mechanical workings of all departments of Nature, and leads to discoveries of the occult and latent principles controlling the sources of light, heat, and motion. It is the faculty which is the chief agent in discoveries in electricity, biology, mathematics, and astronomy, which every day startle the world by their accuracy and importance. Many uneducated persons have, with the assistance of this trait, been able to make inventions of great importance, and if one cannot get an education a large endowment of this faculty almost takes its place, and its constant exercise will cause one to become intelligent in many branches of knowledge. Such a one was William Murdock, whose biography has been written by Samuel Smiles in his work on "Men of Industry and Invention."[*] This man arose from the condition of a poor, uneducated Scotch mason, and became the inventor of the application of coal-gas as an illuminant and of other commercial uses, and also of very many inventions in connection with steam-engines. He was the able assistant of James Watt, working with and assisting him for years in his inventions. He became one of the world's benefactors through a constant and practical exercise of his analytical powers. It is worthy of remark, however, that his talent came to him as an inheritance transmitted through a line of ancestors who had been mechanical for generations, thus proving that a trait intensified by the exercise of many generations, when transmitted, often displays itself in the form of an *instinct*, and gives the capacity for *spontaneous* and instinctive expression, as witness the compositions of Mozart at four, Meyerbeer at six, and of Goethe, the poet, at six. Also the mathematical genius of Zerah Colburn, who, at six years of age, was able to "divine," as one might say, the answers to vast sums, and this without any previous

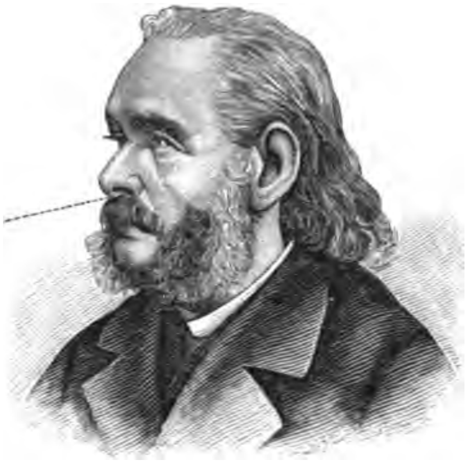

FIG. 67.—MATTHIAS JACOB SCHLEIDEN.[†]
(CHEMIST.)

Born in Germany, 1804. Conspicuous facial sign, Analysis. The law of the straight line, curve, and cube governs this face. The domestic and moral virtues are amply represented in the lower part of this face. The nose and forehead (particularly the lower part of the forehead) are most striking. In the nose are the signs for Hope, Analysis, Mental Imitation, Human Nature, Constructiveness, Acquisitiveness, and Veneration very large. The region about the eyes discloses a wonderful development, for here Observation is immense and Prescience uncommonly large, while Locality, Weight, Form, Size, Language, Music, Time, Order, Memory of Events, Reason, and Intuition combine in such large degree as to enable the character to manifest the highest scientific gifts,—the powers of intuitive insight and discovery of the forces of Nature and their application to human necessities.

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[*] Men of Industry and Invention, Samuel Smiles, p. 118.
[†] This cut is by permission of D. Appleton & Co., New York.

education,—a proof of *inherited analytical power*, which in his case worked *spontaneously* and without knowledge on his part as to how he produced the results. In all youthful prodigies, whose minds work spontaneously and who exhibit effects which are in others attained only by years of practice and experience, their talents are of the nature of *instinct*, and act as automatically as does the newborn infant in the act of sucking or grasping.

The human family exhibits many instincts, some not of as high a grade as are shown by animals. Yet, when they reveal themselves in the spontaneous acts of genius, the fine self-conceit of man attributes them to something higher even than reason, when, in fact, precocious genius is always shown by an *instinctive* or automatic manner of doing things,—a method which is popularly considered to be the special attribute of the animal kingdom when exercised in a similar manner by the latter. Genius or spontaneous action is well illustrated by the spider, ant, and bee in their beautiful and ingenious constructions. The architectural and mathematical principles exhibited by these several species have been transmitted to them from ancestors who possessed these talents.

I have never examined either portrait or bust of any greatly talented person, or a genius in art, science, or mechanics, that was deficient in the sign for Analysis. A word of caution is here added to those who prepare drawings for works of biography and ethnology: Too little attention is given to the details of the two most prominent features of the human organism, viz., the nose and ear. Many artists seem to think that *any form* in the shape of a human ear will do for any given portrait, whereas the truth is, that the ear of every person is as different and as individualized as is the nose or mouth. Not only is this the case, but each ear on the head of any given person is quite different and distinct in its shape from the other ear. So great is this disparity that, in examining the two ears of any subject, one would scarcely believe that they could belong to the same head; while the minute details in the shape of the nose, more particularly about the tip and septum, are often entirely *ignored* by even the most talented painters. Now, it is these *minute variations* in form which disclose great and important characteristics. The physiognomist must see these fine shades and grades of form portrayed in marble or on canvas before he can describe accurately the character intended to be represented, hence the drawing for works of ethnology must be most correctly delineated in order to present the most faithful exposition of character.

The power of Analysis is greatly called into activity in the investigation of *human character*. Nowhere is it of such importance, and, as we have no way for discerning and discovering character, both mental and physical, as certain as by the examination of the human face, so it is apparent that the most minute details and variations in form and size must be closely scrutinized and analyzed before a final verdict can be given.

This trait is equally useful in art, in mechanics, and science. One of its most efficient uses is in the comprehension of the human body and mind. Any face which shows a deficiency of this faculty is not well adapted to the study of science, more particularly that of human science as shown in evolution, psychology, and physiognomy. No original thinker, actor, artist, poet, or painter is deficient in this trait, and this is why the noses of these classes present such a variety of shape and peculiarity of structure in the region of the septum and tip of the nose, and also about the lower third of the nose, which in imaginative and constructive characters is quite developed in size and form as compared to the noses of commonplace and ordinary individuals.

So surely is Analysis the sign of a high and perfected people that it is never seen in the physiognomies of undeveloped races, such, for example, as the natives of many parts of Africa, New Holland, and also in the countenances of congenital idiots. It is also a distinguishing difference between the more highly evolved or talented and original characters and the very ordinary, unimaginative, and non-inventive persons among the civilized races. It is one of those traits which a developed humanity has evolved along with many other high faculties. This circumstance is one proof of the high improvability of the race, assuring us that there are yet greater heights to which character can attain. The many grades and degrees of this faculty observed among different individuals of the civilized races, ranging all the way from a total deficiency to a highly-marked degree, show us that its development is still going on, and that as physiological evolution progresses the *human mind* develops in the same ratio. The bodies of the lowest races are in just the same defective state as are their minds. An examination of their bodily and facial features will confirm this statement. We have only to use our powers of observation, analysis, and comparison, if we desire to verify any appearance in the human body or face which seems obscure. Our senses were given for this purpose, and when we refrain from using our powers in any department of our nature we decrease our ability in that direction. "Use increases capacity," hence we should not rely *entirely* upon others for moral support, logical deductions, comparison, or analysis, but put forth our own efforts, and thus by continuous attempts in higher directions develop a higher morality, more mental acumen, and greater accuracy of all our powers and capacities.

In studying the science of physiognomy, each one should observe for himself, and note whether the signs I give correspond with his own observations. If they do not appear to do so, he should renew his investigations until his observations are *verified* or *disproved* by incontrovertible evidence. Scientists are not infallible; yet it is not unreasonable to presume that one who passes a life-time in the study of a particular department of Nature should know more about it, and collect more extended and accurate knowledge on the subject than the casual observer. Yet even these may discern phenomena which have escaped the notice of more attentive persons. *All* should endeavor to contribute something to physiognomy and leave their discoveries as a legacy to generations yet unborn. It is in this manner that the great astronomers co-operate and leave their observations to be added to and built upon by those who follow.

The *direction* which analytical power will take in each case is shown by other faculties in combination. If one possess the *artistic* combination, like Canova, he will best analyze artistic works. If the *mechanical* traits predominate, he will be adapted to the criticism and invention of mechanical objects. If the *dramatic* traits are pre-eminent, the analysis of character will be exemplified. If Color, Form, Size, and Imagination are dominant, we shall find exhibited the works of a Titian, a Carlo Dolci, or a Caracci. If the *musical* sense is greatly developed, Analysis assists in the separating and resolving into their constituent elements the principles of music. Where the literary faculties are large, it assists by simile, parable, allegory, and figures of speech the writings of the literary character.

There are so many sorts of analytical power, and so many grades also, that it is impossible to represent them all by writing. They must be studied in the living subject.

The situation of the sign for Analysis is noteworthy, and, taken in conjunction with its nearest neighbors, is highly significant and corroborative of its use and purpose. The sign for Mental Imitation adjoins Analysis, and is located just forward of it, while Ideality, Imagination (æsthetic taste) are quite close, and Sublimity, Human Nature, and Constructiveness are all in close proximity. Truly a wonderful group! This collection of signs thus arranged reveals to us why it is that the noses of artists, poets, inventors, musical composers, actors, littérateurs, and discoverers are all so developed about the tip and septum, for here are congregated a band of noble assistants to the fine arts and useful professions. The development of this part of the nose discloses the course of evolution by ethnic characteristics, and teaches us that the noses of the most talented and the most useful of all the finer races advance into prominence and in complex configuration according as the character is enriched by the physiological development of the race. The impoverishment, mentally as well as physically, is disclosed more by the nose than by any other feature, although phrenologians would have us believe that the *forehead* presents greater proofs of the presence of intellect. I shall show before I finish these pages that large size of forehead is not proof of great intellect, and that, taken alone, it will not verify any such assumption; while the nose, taken alone, will not only disclose the *kind* of intellect with which one is endowed, but will also reveal its activity and give a correct idea of the respiratory, circulatory, and digestive powers as well.

So much has been observed and recorded of the analytical powers of every species of animal that it is difficult to select instances to illustrate their possession of this trait, which the arrogance of man has *assumed* to be an exclusively human faculty. The Rev. J. G. Wood has collected a large number of anecdotes relating to the mental and moral characteristics of animals, from which I extract the following, as showing that fertility of resource, ingenuity, and adaptability of means to ends are extended throughout the animal kingdom. He observes:—

> While a friend of mine was last week superintending his workmen in a wood, he observed his dog, a retriever, busily occupied in collecting mouthfuls of hay and withered grass, and carrying it all to one spot. On going to examine it he found the deposit made was on a closely-coiled hedgehog. The dog, having attained his evident purpose of rendering the spines harmless, proceeded to take up the heap with its contents, and then set off triumphantly toward home.

To this he adds:—

> No human being could have acted in a more judicious manner, and had a man saved his fingers by enveloping the hedgehog in grass he would not have felt particularly flattered if told that he had acted by instinct and not by reason.*

MENTAL IMITATION.

Definition.—The capacity for imitating mental efforts, as in art, poetry, literature, science, and mechanism; the ability to imitate the voice, the walk, gestures, and human passions, as in the drama and in oratory; copying the appearances of Nature by the painter's brush or sculptor's chisel; the propensity to imitate the dress and customs of associates, and to "catch the manners living as they rise" of those by whom surrounded.

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*Man and Beast, Here and Hereafter, Rev. J. G. Wood, p. 29.

An *excess* of Imitation divests one of all originality, and, like the parrot, causes one to become the echo of others.

A *deficiency* of imitative power makes one non-progressive and incapable of improvement by observation of the manners and customs of others, or by imitating superior methods in art, business, manners, dress, literature, etc.

Facial and Bodily Signs.—The most pronounced facial sign for Mental Imitation is shown by the downward projection of the tip of the nose, just under the signs for Ideality and Sublimity, and forward of Analysis.

The signs for Physical Imitation, or the capacity to imitate the voice, gesture, position, and movement, such as dancing, gymnastics, singing, acting, skating, and all athletics, are shown by a wide mouth, full lips, rounding limbs, muscular and flexible hands and tapering fingers, together with flexibility of the entire muscular system. These latter signs denote that phase of the faculty of Imitation which *assists* dramatic expression, oratory, and athletics generally, and can be instantly detected by the graceful attitudes and easy motions of the body and limbs.

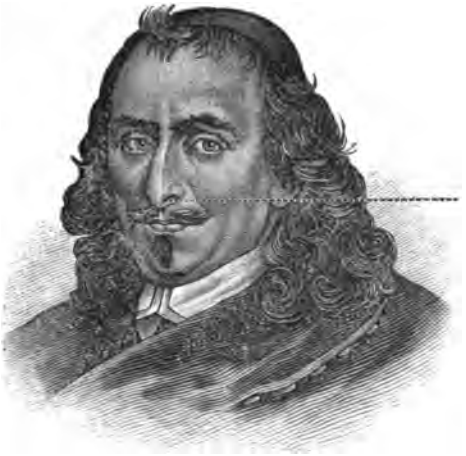

FIG. 68.—PETER CORNEILLE. (DRAMATIST AND POET.)

Born in France, 1606. Conspicuous facial sign, Mental Imitation, shown by development of flesh under the tip of the nose. The law of the straight line and curve governs this countenance. The signs for Firmness, Conscientiousness, Love of Home, Patriotism, Benevolence, Approbativeness, Mirthfulness, Alimentiveness, Love of Young, Amativeness, Friendship, Color, and Modesty are all conspicuous. In the nose the signs for Mental Imitation, Hope, Analysis, Human Nature, Ideality, Acquisitiveness, Constructiveness, Sublimity, Veneration, Executiveness, Self-will, Form, and Size are large; while Observation, Language, Memory of Events, Order, and Intuition are well defined. The hair is in waves and rings,—a truly poetic condition.

DESCRIPTION OF MENTAL IMITATION.—Close and extensive observation of the physiognomies of the most talented, creative, and original people discloses the fact that the nose at its lower part about the tip presents an appearance quite different from that observed in the noses of infants and of undeveloped races, and of those in civilized life who are stupid or commonplace, or wanting in originality and literary and artistic ability. The logic to be deduced from these phenomena is that there is a clear and distinct relation between the development of this part of the nose and the grade of intellectual development of the race or individuals among whom these appearances are discovered. Small, inferior, sharp-pointed noses, without literary or artistic talent, and a finely-developed, broad-tipped nose, with literary and intellectual endowments, are the indications by which these two distinct formations are known.

What is the base of supply of Mental Imitation? is the question which concerns us here and now. The muscular and brain systems are undoubtedly the origin of this faculty. To assure ourselves of the truth of this postulate we have only to look to the ethnic peculiarities of those races of men and animals which are lacking in Mental Imitation, and we shall find absence of both muscular and brain development, as well as sensitiveness of the nervous system. Furthermore, if the tip of the nose, for example, is unusually developed in a race or individual it is logical to infer that it has more complex nervous relations and a more extended nervous apparatus than are found in noses that are relatively small and undeveloped. I do not know that this has been demonstrated by actual experiment by dissections, but I do know that it is good physiological and anatomical logic, for Nature never evolves a feature without furnishing adequate nervous mechanism, as well as muscular and venous supports, when required to perform a certain task. Every sign in the face has a *very long* tale behind it,—has a physiological history, which must be read in order to understand its origin. Now, development of the nose, more particularly of the point of the nose, is revealed only in those races whose general development (by evolution)

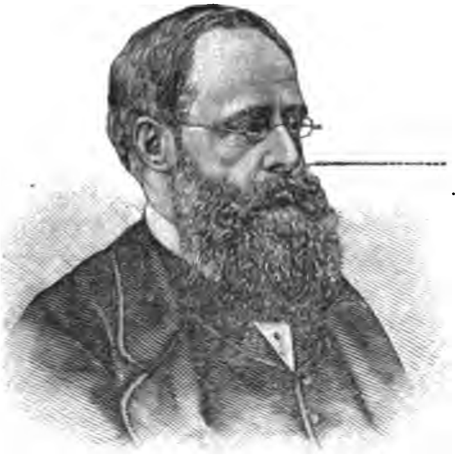

FIG. 69.—WILKIE COLLINS. (DRAMATIST AND NOVELIST.)

Born in England. Conspicuous facial sign, Mental Imitation. The law of the straight line and curve governs this physiognomy. The appearance of the upper portion of the face gives us a tolerably good idea as to the formation of the lower third, where are situated the signs for the moral and domestic traits. These are all well developed. The writings of Mr. Collins prove that these sentiments held a large place in his nature. The mental signs in the nose are most clearly defined. Hope, Analysis, Mental Imitation, Ideality, Sublimity, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are most decidedly developed; while Prescience, Form, Size, Observation, Locality, Language, Music, Order, Memory of Events, and Intuition combine to make this mind a first-class power in the literature of fiction.

has advanced to a very high grade as compared to the lowest races, hence we are justified in ascribing the development of the power to copy mental efforts to, first, general development of the entire body and mind, and, second, to a special development of this particular capacity for art, literature, etc. Now, these branches of human knowledge must have not only the assistance of sensitive nerves, but also the aid of well-developed *flexible muscles*; therefore, the signs for Mental Imitation are found located in and revealing themselves by the muscles and nerves of the point of the nose, and in the muscles rounding out at the side of the forehead and in the orbicularis oris, or the muscle around the mouth which assists it in opening and closing, together with the levator zygomaticus major and minor muscles, and muscles of the face which pull the orbicularis up and down.

Here is given in brief the origin and physiological meaning of the signs for Mental Imitation. The signs in the nose and forehead are the indications of the capacity for thought, for the creation of mental imagery, as in plays, fiction, essays, history, etc.; while the signs in the *mouth, limbs, and hands* are evidences of the *physical phase* of imitative talent, and indicate the ability to copy the walk, gesture, attitude, and position, as well as the power to reproduce vocal effects, both human and animal.

The singer, elocutionist, and orator must have a fine muscular development in order to produce well-modulated, sonorous, and long-continued vocality. They must have, also, sensitive, *musical ears* in order to receive and imitate the sounds which they reproduce. The ventriloquist relies upon a peculiar construction of the muscles and cartilages of the vocal organs and acuteness of hearing. The best actors possess *round muscles*. These are essential to the expression of the most graceful attitudes and gestures. The voice in its pitch, modulation, and changes in imitating the vocal characteristics of various characters is dependent on fine flexible muscle for its power. It may be argued by those who are not closely observant and highly analytic that Irving, the actor, is thin and not muscular. Now, the fact is that he possesses long and flat muscles and square bones. This combination would seem, to one not experienced in analyzing anatomical differences, that he was not muscular, as flat muscles never produce the fullness and roundness of contour which characterize the round form of muscle. Yet, the muscle in him is *relatively* greater than the bony structure; hence, his power for gesture, vocality, etc. The reader may look for the nasal sign for Mental Imitation in the physiognomies of Dickens, Lotta, Bernhardt, Ellen Terry, Edwin Booth, Doré, Byron, Guido, Reni, Tom Taylor, Tourguienieff, George

Eliot, Harriet Martineau, and hosts of others of the literary and artistic classes.

All features are subject to the modifying action of the law of *quality;* hence, in reading a character the quality must be taken into account before pronouncing upon the capacity of any individual. Then, too, the *other traits in combination* must be noted in order to know which particular branch of Mental Imitation will be manifested in a given subject. The *quality* of Mental Imitation exhibited by a professional "negro minstrel," for example, would not be comparable to the quality of a Salvini nor a Booth. Neither would the writer of crude verses be found equal in texture to the gifted Mrs. Hemans. We must study and consider *quality* as well as *size* in all cases. The man who is mainly imitative of the voice, walk, and gesture of a negro or Irishman merely would not rank nearly so high as he who could portray with accuracy and fidelity the character of an Othello, a Hamlet, or a Richelieu. Some persons possessed of a certain degree of Mental Imitation are incapable of any higher form than the merely physical part of imitation, and exhibit a taste for athletics, marksmanship, rowing, ball-playing, gymnastics, etc. In such subjects the sides of the forehead will be observed to curve outward, showing the development of the *round* muscles, which are always indicative of a more sportive and playful character than are the flat muscles.

The term Mental Imitation as here employed does not mean that the mental efforts of other individuals will be copied, but that imitation will pursue those lines of mental labor to which their natural capacities are best adapted. They will excel in descriptions by pen and brush of Nature's works, originate thoughts in regard to character, government, science, and history. Yet the faculty tends to the reproduction of the mental efforts of ancestors or others.

In society, this form of imitation leads to the copying after and following the manners, language, and dress of others. Teachers depend upon the imitative faculty in their scholars to reproduce the mental efforts which they exhibit in teaching. It does not necessarily follow that this imitation shall be a servile and exact copy of the teacher's model. If this were the way in which imitation showed itself, every child would be the precise model of its teacher. The individuality of each person is preserved while studying to imitate the manners and expressions of others, and in all persons of any considerable degree of original analytic power these imitations appear as original, through the transmutation which they have undergone while being digested and wrought out by other minds. All those who are possessed of a fair share of individuality originate their own style of saying and doing, while the very mediocre follow a set pattern and become mere copyists of their teachers and those whom they strive to imitate. Genius creates on so large a scale and in so distinct a manner as to be worthy of the term original. The grand creative minds in all departments of art, science, and literature have served as models for thousands, yet are unapproachable. True genius and talent are never afraid of plagiarism, for individuality is stamped so strongly upon the works and thoughts of master-minds as to make perfect imitation impossible.

The signs for literary and artistic faculties are so closely grouped together about the tip of the nose as to make the task of deciphering the mental hieroglyphics here located a matter of very close observation. A life-time would scarcely suffice to describe all the meanings of this one feature. Every person presents a different combination of traits, and close scrutiny of even a dozen noses will soon show the student of physiognomy that he has a fine field for Mental Imitation and Analysis if he would separate and then put together into one character the traits which this feature alone reveals. It would show to the student how certain traits influence his actions and how certain other traits, discernible in the nose, modify other faculties found in combination. "Nosology" alone is a great science, and when one wishes to enter the field of physiognomical research, with the view of teaching it, he must be a student of many other sciences before attempting to expound this one. A high knowledge of anatomy and physiology, evolution, hygiene, and heredity must be had before the crowning study of all sciences is attempted. To approach the temple of human science by any other route will result in ignorance and failure. I have shown that every faculty has a long physiological story pertaining to its origin and progress, hence every good teacher must be conversant with such history in order to teach it in its entirety and in order to understand its full import. What is here written is not intended to discourage readers from teaching and imparting to their children and friends what they have learned and mastered of the science. I am speaking more directly to those who would pursue physiognomy as a profession. Little children can and should be taught the indications of signs in the face by their parents, also the meaning of outlines, of colors, or sizes, and the different characteristics pertaining to the several formations of bone, muscle, fat, nerve, etc. A father walking with his son in the public streets can utilize the opportunity and teach him the meanings revealed by the several shapes of the shoulders, heads, limbs, and walk of those before him, and thus commence the education of this science in youth, in order that the child shall grow up to man's estate armed with such knowledge of his associates as will enable him to cultivate those characters most desirable and most in harmony with himself, and avoid those who would prove a detriment to him in business, society, or in marriage. In order that children shall not be slavish imitators, parents and teachers should instruct them to do everything as nearly in a spontaneous manner as possible. They should urge them to try experiments after receiving a few hints or suggestions from those more experienced; yet, to imitate the nice manners, fine conversation, graceful walk, and appropriate gestures of their associates is most commendable.

This is one of the normal uses of Imitation. It tends to improvement. Reading biography and imitating the methods and habits of inventors and navigators are excellent uses of this pliant faculty. After reading the life of Lady Jane Grey I was so stimulated to be as learned as she in languages that I learned in childhood the Hebrew alphabet, which I found at the head of the Psalms in the book of "Common Prayer;" the Greek letters, which I discovered in a college text-book; while the French and German alphabets I learned from children of those nationalities. As I had no teachers, I could not then advance very far in this direction, but I have always been stimulated to mental efforts by reading or hearing of the labors of others; hence, biography is an excellent study and stimulus for children as well as adults.

The successful writer of children's stories and games must have large Imitation in order to imitate and reproduce the feelings, language, and manners of the young. Like the actor, he must be able to enter into and sympathize with the feelings of those he would depict. Imitating the facial expressions, gestures, and walk of any given character will produce the sort of feeling or sentiment appropriate to that gesture, walk, or expression of that character. Let one throw the face into the expression adapted to the representation of languor, joy, sorrow, rage, or fear, and it will be impossible for him to divest himself entirely of each of these feelings while thus engaged. Sir Charles Bell has remarked this, and I have often made the experiment myself and can vouch for its truth. Imitation of any passion or emotion, or of any particular character, brings with it, in a certain degree, the feelings of that emotion or passion.

Animals of both high and low grade possess the faculty of Mental Imitation as well developed as that of physical imitation. Among the various dog tribes some are trained to perform in public, and do so with a great deal of skill. Others are bred to the chase and use a great deal of reason, self-denial, and analytical power in adapting themselves to new conditions under new circumstances, and show great fertility of mental resource in assisting their masters. Birds are taught to sing and whistle and imitate the notes of other birds, while the parrot and mocking-bird are wonderful examples of the power of Mental Imitation in animals. Dr. Lindsay mentions the case of a paroquet that could speak several languages, and *swear* when it was enraged in both French and English. Of ants, it has been remarked by Darwin that "so high is their intelligence that in many senses they may be ranked with man." Elephants show a very high degree of both Mental and Physical Imitation, being trained to assist in many mechanical labors and in warfare, where they show great ingenuity. Orangs have been trained to imitate human beings at table, and spread their napkin over their breast, sit upright, and take the cup, fork, spoon, and knife with all the dexterity if not the grace of a gentleman. Even fleas have been trained to perform in public, and small birds are taught to draw up water in little shells attached to a string when they want to drink. The fact that nearly every sort of animal and insect possesses both Mental and Physical Imitation is well known to all who have made any observation of their habits. Animals are possessed of all the traits which man exhibits, and surpass him in some of them.

SUBLIMITY.

> "Look, then, abroad through Nature to the range
> Of planets, suns, and adamantine spheres,
> Wheeling unshaken through the void immense."—AKENSIDE.

Definition.—The sense of grandeur and magnificence; nobility and loftiness of character; exaltation; appreciation of immensity; love and perception of the grand and sublime in Nature and character; comprehension of broad and vast schemes, plans, and systems, whether commercial, financial, governmental, scientific, or artistic; understanding of the far-reaching power of God's laws, as evidenced in the immensity of Nature. It is large in astronomers, inventors, mechanicians, epic poets, historical painters, great orators, and talented composers, naturalists, and scientists.

Its *excess* is shown by an inflated and extravagant style of writing and speaking. It also leads to too large plans in business which, unless dominated by reason and practicality, end in disaster.

Its *deficiency* tends to narrowness of thought and deed, and divests the character of a sense of the grand and heroic; its absence is shown by low, petty, groveling, and commonplace ideas and actions. This class of minds have no conception of the majesty of Nature, nor can they appreciate and understand the motives and character of those who move in the higher realms of life.

Facial and Bodily Signs.—The most decided facial sign for Sublimity is seen in the peculiar development of the tip of the nose, causing the outer corners at the tip to be rounded and full externally to the signs for Ideality. Large, full eyes are a secondary sign, while symmetry and general high development of the body and mind are usually accompanied by a fair share of Sublimity.

DESCRIPTION OF SUBLIMITY.—As we have now advanced in our investigation of faculties into the literary and artistic group, the facial signs for which are situated in the lower third of the nose, at and about the tip, and, as we leave behind the study of the merely vegetative or domestic sentiments, we shall expect to find artistic, scientific, and literary signs in the countenances of those whose life-efforts attest the presence of the faculties best adapted to the creation and exhibition of such works.

Undeveloped persons and races reveal a very slight degree of the faculties the signs of which are so prominent here, yet many animals exhibit fine, artistic, and mechanical skill in the building of their homes and nests, as witness the beaver's dam, the mole's burrow, and the wonderfully ingenious nests of birds, spiders, ants, and bees. By comparing the talents and works of developed men and perfected animals with the works of undeveloped men and the lower animals, we shall find that evolution is the force or factor which has advanced certain races to such states of physical or physiological and anatomical perfection as to enable them to excel in thought and deed, in plan and performance, those who have remained at a much lower grade of physiological development.

Accordingly, we find that those fine constructive traits, the signs of which are seen in the noses of the greatest of the human race, are accompanied by bodies whose structure warrants us in believing that function and faculty develop *pari passu*, and thus it is that in those endowed with large Sublimity we observe the development of a fine *quality* of the muscles, also a fine and *sensitive quality* of the brain and nervous system, and this development always makes its impress upon the nose by creating greater *breadth at the tip.* The more we investigate the science of physiognomy, the more we shall become cognizant of the fact that advance of intelligence is always registered in the nasal organ, and the signs here displayed can be corroborated by reference to the structure of all parts of the body, as well as by observing the *quality* of the organism. Sublimity being the exclusive faculty of the most developed minds, and being also the trait that is characteristic of all those who are endowed with the capacity for comprehending and reproducing mental and material pictures of the vast and boundless works of Nature, we should naturally expect to find them furnished with bodies and faces in marked contrast to those who are mean, sordid, servile, miserly, currish, narrow, stupid, and obstinate. That there is a wide difference in the nasal appearance of these two classes can be easily demonstrated. Let the reader place before him portraits of the most distinguished poets, painters, actors, heroes, orators, astronomers, philosophers, scientists, discoverers, and inventors by the side of a similar number of sneak-thieves, cowards, stupid and commonplace persons, and he will find that the bodies and countenances of the former are quite different in appearance from the latter; he will find that the *structure of the bodies* of the former is more harmoniously proportioned; he will observe that the face is more symmetrical, and, above all, he will discover that the nose, particularly at the tip, is quite different in appearance every way from that of the lower class. The conclusions which we draw from the above in regard to the origin of Sublimity are that this faculty is dependent upon an equilibrated and perfected development of the mind and body. Now, I do not use the term perfected as expressing an *absolute* condition of perfection, but in a relative sense: I mean that one class of those mentioned are more advanced structurally,—are on a higher plane of evolutionary progression than those who are totally lacking in this trait.

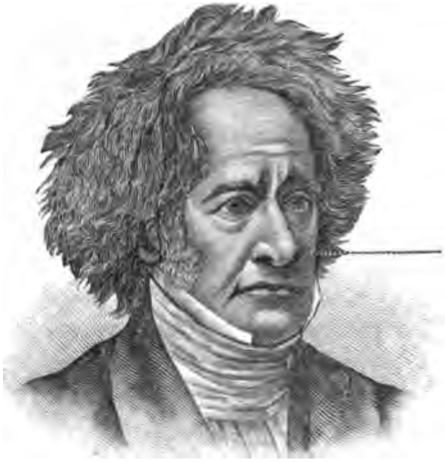

FIG. 70.—SIR JOHN FREDERICK WILLIAM HERSCHEL. (ASTRONOMER.)

Born in England, 1792. Conspicuous facial sign, Sublimity, shown by roundness and width of the tip of the nose. The law of the straight line, square, and curve governs this face. In this great countenance we observe general development, The quality is very high. The signs for Conscientiousness, Firmness, Patriotism, Love of Home, Love of Young, Benevolence, Economy, Alimentiveness, Sanativeness, Self-esteem, and Friendship are well defined; while the mental signs in the nose, Sublimity, Mental Imitation, Hope, Analysis, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are uncommonly conspicuous. The faculties which create mathematical and geometrical ability are also large. Observe the signs for Form, Size, Weight, Locality, Calculation, Order, Time, and Memory of Events; while Reason and Intuition are of the highest order. The hair is corroborative of genius, being luxuriant and falling in a unique and strongly individualized manner.

The mental phase of Sublimity will now be discussed. One of the greatest aids to the scientist, who passes his time in projecting his mental vision through the regions of space, is the faculty of Sublimity, or the appreciation of the grand in Nature and the illimitable and infinite in eternity. This sense is as useful to the astronomer as to the poet, and imparts as much enjoyment to him who revels in the knowledge of the infinitely great in this world as to the prophet who foresees and foretells the glories of the coming of the Kingdom of Heaven. The difference between these two persons is that one sees with the natural eye through the telescope, and the other with the eye of the mind, through an exalted condition of the faculties of Credenciveness, Veneration, and Sublimity. In the case of the scientist the eye will be found relatively small, exact, and sheltered under a bony ridge, as are the eyes of good mechanics; while the eyes of prophets will be found large, bright, and in a "fine frenzy rolling," as is often seen in the physiognomies of poets and religious fanatics.

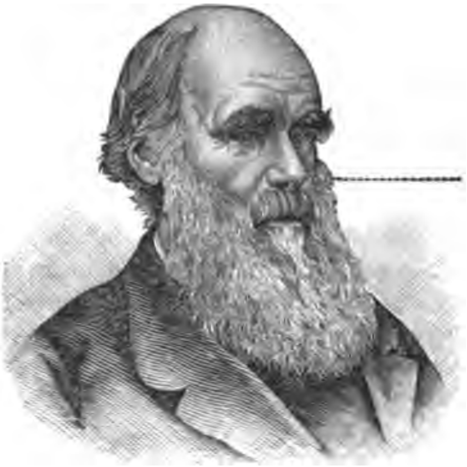

FIG. 71.—CHARLES DARWIN. (NATURALIST, DISCOVERER, AND AUTHOR.)

Born in England, 1809. Conspicuous facial sign, Sublimity. The law of the straight line, square, and curve governs this face. The signs for the osseous system, which is one of the dominant systems of this organism, assure us that the moral and domestic traits are normal. The nose is uncommonly developed, and exhibits large signs for Mental Imitation, Analysis, Ideality, Sublimity, Acquisitiveness, and Constructiveness; while Veneration, Executiveness, and Self-will are only of average size. Form and Size are very large. Observation is most uncommonly developed. Locality, Order, Memory of Events, Reason, and Intuition are of the highest order. The wrinkles of the forehead reveal honesty, honor, morality, and genius. Mr. Darwin's life was characterized by usefulness, patient industry, deep research, love of truth and purity, and a mild, well-balanced disposition.

Sublimity gives to the character the love for the grand, majestic, and expansive in Nature, and the capacity to appreciate or enact the noble, heroic, and elevated in conduct and sentiment. It is adapted to the comprehension of the boundless range and compass of Nature's illimitable space, and this is why it is found large in the character of astronomers, naturalists, and mechanical inventors. These classes of beings must have a trait which enables them to comprehend vast and mighty systems of laws, and this no narrow-minded person could do. Sublimity is a quality also of the patriotic orator, as well as of many of his hearers, whose feelings are aroused to action by the sublime utterances of a Webster, a Calhoun, a Patrick Henry, or a Pitt. Whenever the earnest orator is warmed to his highest pitch he meets with a ready response from his listeners and kindles like emotions in their minds. All faculties have a dual action,—the one being executive and exhibited by acting or doing, the other being appreciative and manifested by feeling, enjoying, and criticising. While one can write a poem, others who cannot thus express their feelings often appreciate and enjoy it more than the one who writes it.

Sublimity, like Ideality, is an attribute of old and perfected races, and its sign is quite generally observed in the faces of the Hebrew race. In them (as the majority of them are commercialists) it assumes the form of *vast business enterprises*, and whenever commercialists indicate the possession of this faculty they will invariably undertake grand schemes for the acquisition of wealth, as witness the Rothschilds and Baron de Hirsch, who have banking houses in many of the large cities of Europe, and who deal on a large scale with governments. Their ideas of grandeur will be confined, of course, to material things, yet when they evince a taste for the fine arts it will show itself in a love for oratory and grand music, in the building of massive structures, and in the purchase of magnificent works of art, such as colossal statuary, paintings that depict battle-scenes or great tragedies, etc. The prophets and poets of the Hebrew race, those whose writings express in the Psalms of the Old Testament the most exalted sentiments, assure us that they possessed an appreciation of the glorious and stupendous works of God. The Hebrew race has given to the world some of its sweetest singers, its most gifted dramatists and actresses, its grandest composers, its noblest philanthropists, and its most princely and successful bankers. Its physiognomical peculiarities tell us that it is a developed race, and the proof of this fact is within the reach of all who can lay aside prejudice and put scientific demonstration in its place. Among the musical composers of the race I may mention Meyerbeer, Mendelssohn, Sir Julius Benedict, Sir Michael Costa, and Halevy; of its singers, Pasta. Among its tragediennes, Mdlles. Rachel and Bernhardt and Adolphe Sonnental; of its writers, the names of Grace Aguilar, novelist; Heinrich Heine, Spinoza, Moses Mendelssohn, philosophic writers; Emma Lazarus, poetess; Benjamin D'Israeli, statesman and novelist; and Isaac Adolphe Crémieux, counselor, are well known. Among the great philanthropists the names of Sir Moses Montifiore and Baron de Hirsch will ever stand for all that is sympathetic and magnificently generous. The race has developed many fine painters and sculptors, among them Toby Rosenthal, painter, and Moses Ezekiel, sculptor, are renowned. Chief among its modern orators the fiery Gambetta stands supreme. Its princely bankers, the Rothschilds, are world-renowned.

These modern names are more than matched by the host of talented Hebrews, gifted in every art and science, who flourished in Spain from the eleventh to the fourteenth centuries, the true "golden age" of Hebrew intellect.

Every true poet must possess the sense of Sublimity in order to bring his mind in unison with the awful and majestic, as exhibited by Nature in her grandest and wildest moods. The roar of the mighty ocean, the rush of the deadly cyclone, the terrific thunder-peal and vivid lightning-flash, must arouse the poet to that degree of intensity that his soul is stimulated to pour forth in grandest verse the exalted expressions which such scenes inspire. It is these vast operations of Nature that have given the impulse to the inspired writings of Homer, Hesiod, Sappho, Dante, Shelley, and Byron. It was Sublimity permeating every sense which gave to Michael Angelo the power to portray the sublime "Transfiguration of Christ" exhibited in the Vatican. It was the same faculty which impelled Guido Reni to give to the world the magnificent "Aurora," to be seen in the Palazzo Rospigliozi at Rome, and the spirit of this sentiment can be discerned in the message which he sent to the Cappucini at Rome, with his celebrated picture of St. Michael. He wrote thus:—

> I wish I had had the wings of an angel, to have ascended into Paradise and there to have beholden the forms of those beatified spirits from which I might have copied my archangel, but not being able to mount so high I was forced to make an *introspection into my own mind*, and into that idea of beauty which I have formed in my own imagination.*

The highest constructive talent without Sublimity could never have guided the chisel of Praxitiles or Phidias, produced the Colossus of Rhodes, nor left to posterity the pyramids and sphynx of Egypt, and other gigantic works of art exhibited in the old world.

The sense of the sublime is not by any means confined to the poet, prophet, painter, and scientist. Many persons unknown to fame are gifted with a sense of the majesty and splendor of art, Nature, and human character. Were it not so, the poet would sing for himself alone, the painter would lack appreciation, the orator move no audience, and the scientist would have solitary enjoyment of the grand truths of Nature which he discovers. All through every community there are beings whose every-day life is tinctured with this noble trait, giving them larger views of life, of conduct, and of moral heroism, impelling them to act in the large and noble charities which disasters by flood, fire, and famine originate. Sublimity creates the desire to be the largest merchant or manufacturer, or stimulates the deathless ambition of some youthful Edison, Watt, or Fulton, to send his name and inventive benefactions adown the stream of time.

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* Painters and Sculptors, Mrs. Clement, p. 496. Boston, 1881.

Wherever we find large Sublimity in combination with large intellectual and mechanical faculties, the mind will be comprehensive and take a *wide range of thought.* Such a mind was Newton's; hence it was well adapted to the comprehension and discovery of one of the greatest, if not the most important law of Nature, viz., the law of gravitation.

In the speeches and writings of those who possess a large measure of Sublimity we find often the most exaggerated and extravagant expressions. In the case of orators and poets this is quite appropriate, but in the every-day speech of private life such language tends to make one bombastic, inexact, and untrustworthy. Such persons should endeavor to tone down their descriptions to the plane of truth and practicality.

The cultivation of Sublimity, where it is deficient, can be attempted by visiting and viewing majestic scenery, such as high mountains, grand waterfalls, the raging ocean, spacious landscapes, listening to fine orations, inspecting the noblest works of art, and by associating with those whose lives, conduct, and conversation illustrate the faculty of Sublimity. The *influence of locality* has much to do with the development of this faculty. It is larger relatively in those who occupy mountainous regions than in those who live in the plains, unless they live near the ocean and feel the influence of its mighty, rushing waters. This develops and strengthens the sense of infinitude, and imparts more expansive ideas than are exhibited by those who live in narrow valleys or flat, level spaces.

Those who exhibit a large degree of Sublimity will, as a rule, in selecting a site for a residence, manifest it by building on an eminence where they have a view of the surrounding country. They will be the happier and more contented by the indulgence of this sentiment. It will prevent loneliness and often supply the place of human companionship. Where this trait is small and the practical faculties dominant, a *convenient* place will be the one most sought.

The combinations of traits found with Sublimity influence man in many ways. With large Ideality, Language, and Constructiveness, a taste for poetic composition will be exhibited; with large Veneration, he will bow in adoration before the mighty manifestations of God's power; with large Locality added to large Sublimity, he will enjoy traveling, and will make great efforts to visit the most noted scenes, such as the Alps, the Yosemite, Niagara, the Garden of the Gods, etc., and will in communion with such scenes feel "mightily lifted up" and overpowered by the stupendous architecture of God; with Human Nature added, he will love to listen to heroic deeds, and, with large Conscientiousness and Veneration, will enjoy the writings of the great moral and religious reformers, and will participate in moral movements for the benefit of mankind; with a mechanical mind and large Time and Calculation, he will display a taste for astronomy, and, with Constructiveness added, ability for invention.

The higher animals, no doubt, share with men in a limited degree this sentiment, for surely the fleet deer and chamois occupying the mountain heights must possess a higher comprehension of vastness than the cattle confined to a plain or a barn-yard. The recognition of man as a superior being on the part of our domestic animals imparts to them ideas of superiority akin to the sublimity of feeling which actuates man in his belief in a Deity and in hero-worship and in his veneration for the great.

The position of the facial sign for Sublimity is *significant* of its office in the human mind. Its nearest neighbor is Ideality, while Human Nature, Mental Imitation, Analysis, Hope, and Constructiveness are in close proximity, thus showing the character of the company in which Sublimity is found. These faculties are all natural allies, and assist each other.

Sublimity and Ideality grace the speech and writings of all great minds, while the orator, sculptor, and painter are indebted to them for the beauty and grandeur which distinguish their works, and which render them immortal. The inventor, too, must needs have a large share of Sublimity in his composition in order to be able to comprehend the vast and complex chain of laws which connects all departments of Nature. He must be able to realize the universality of their application, and know how to apply the laws of mathematics, chemistry, force, resistance, motion, gravity, equilibrium, polarization, pneumatics, hydrostatics, acoustics, pyronomics, magnetism, and electricity. These sciences are vast and complex, and governed by natural mechanical laws, the principles of which must be understood by the inventor and by the intelligent mechanic. The action of these laws extends throughout space, and the force of gravity, together with the laws of centripetal and centrifugal motion, not only hold the entire solar system true in space, but are the controlling principles in the mechanism made by the hands of man. It is thus shown that in the invention of machinery and in the application of the great mechanical forces of Nature the discoverer and inventor must possess sufficient of the faculty of Sublimity to enable him to comprehend the far-reaching results and action of these laws, powers, and forces.

An examination of the physiognomies of the most celebrated inventors, discoverers, architects, and mechanics will disclose the lower third of the nose well developed and the sign for Sublimity most decided. How can it be otherwise, when we know that minds of the highest order only are capable of comprehending and applying the grand principles revealed in Nature's laws? For this reason I claim that the greatest minds of the age, those most conducive to a high civilization, are the inventors, mechanics, and scientists. They rank higher than artists, musicians, sculptors, painters, poets, and actors in usefulness, in breadth of intellect, in integrity, and in the knowledge of God's immutable and eternal laws. Their characters must be based on Conscientiousness in order to be in harmony with the *truths of Nature*, for one with small Conscientiousness cannot enter into the spirit of the truths of Nature to the extent that one can who has large Conscientiousness added to large mechanical abilities. Let the reader scan the physiognomies of the following-named persons and he will observe an excellent development of the sign for Sublimity, varying in size according to the several systems of functions in combination. The local facial sign for Sublimity may be found in the portraits of Sir Christopher Wren, architect; Sebastian Vauban, French civil engineer; Benjamin Franklin, mechanical discoverer; Leonard Euler, astronomer; also the Herschels, father and son, astronomers; James Watt, inventor; Richard Arkwright, inventor; Dr. Edward Jenner, discoverer; James P. Joule, chemical discoverer; Thomas Alva Edison, electrician; Dr. Louis Pasteur, discoverer; James B. Eadds, architect; C. H. McCormick, inventor; John A. Roebling, civil engineer; Elias Howe, inventor of the sewing-machine; Dr. William Harvey, discoverer of the circulation of the blood; Prof. S. F. B. Morse, inventor and discoverer. I might mention scores of others whose portraits denote the presence of the faculty of Sublimity, all of which serves to show that this trait assists the useful and practical purposes of life, and is one distinguishing feature of developed minds and bodies.

IDEALITY.

Definition.—Imagination, taste, love, and appreciation of the beautiful in art and Nature; sense of propriety, neatness, and refinement; love of perfection; capacity for improvement in æsthetic tastes; desire for finish, completeness, and thoroughness.

Its *excess* makes one fastidious, punctilious, squeamish, hypercritical, over-nice,—more nice than wise,—and causes loathing, disgust, and disdain for the low and vulgar; gives a love for the unreal, creates an excess of imagination and gushing sentiment, and imparts a dislike for the *realities* of life.

Its *deficiency* is shown by boorishness, lowness, vulgarity, coarseness of language and manners, lack of taste and imagination, and slight appreciation of the beauties of art and Nature. Those greatly deficient are wanting in polish and refinement, and are unsuited to the study of the fine arts. They also take a commonplace or utilitarian view of everything, and some are characterized by an angularity of appearance, awkwardness of manner, and eccentricity of conduct.

Facial and Bodily Signs.—The most reliable and decisive facial sign for Ideality is indicated by *width* of the tip of the nose. This sign is relative. Where the quality of the subject is fine and the mental system predominant, the nose does not present as great width as when the muscular system is dominant, for *fineness* of the brain and nerve system is always accompanied by relatively *less size* of the facial signs, particularly of the nasal signs. Other and secondary signs are known by a straight outline of the nose; fineness of the texture of the skin; finely-arched, long, narrow, and even eyebrows; large, bright, clear eyes; graceful walk; elegant and appropriate gestures; clear and sweet intonations of the voice; fine, natural manners; æsthetic taste in dress, furniture, adornments, and surroundings; ideal, poetic, and imaginative language; neatness and good taste in domestic or other matters, and love of poetry, flowers, paintings, statuary, etc.

DESCRIPTION OF IDEALITY.—The physiological basis of Ideality is found (as are all the faculties the signs of which are situated about the tip of the nose) to be in the *general development of the quality* of the brain and nerve system; hence, it is the distinguishing characteristic of those persons and races that have attained by evolution to a certain degree of *fineness* and *keenness* of sensation, which puts them *en rapport* with the finer aspects of the works of Nature and of Nature's imitations in art.

The sign for Ideality has scarcely a rudimentary appearance in the noses of undeveloped races, and many persons in civilized races manifest very little sense of the ideal, the imaginative, and tasteful. Reference to the noses of such will show either a sharp, gimlet-like form at the tip, or, if the end of the nose be flat, blunt, and broad, as with the negro, the inherited *quality* will be seen at a glance to be of a low order; the *skin* and *hair* will be coarse, and the voice, language, manners, walk, and gestures will corroborate the face in its indications. We are now dealing with traits of *quality*, and a progressed evolution always raises the nose high above the plane of the face; therefore, wherever the sign for

Ideality is found large the nose will not only be *broad* at the tip, but it will be *relatively high*. No feature of the face so marks the presence of mentality of the finer sort as a nose developed in its lower third. Particularly is this shown by height and width, together with that peculiar configuration which shows that the signs for Mental Imitation, Analysis, Hope, Sublimity, and Constructiveness are large. Some ideal noses present a *square-cut* appearance, while others that have Sublimity large in combination exhibit a *rounded* appearance at the sides of the tip. This is more particularly the form of the tip of the noses of those artists whose sublime works of art, invention, and discovery have immortalized them. The reader is referred to the portraits of the master-minds in all these fields of labor.

A secondary base of Ideality is to be found in that peculiar, *fine quality* of the *muscular system* which gives fineness, flexibility, and sensitiveness to its motions, and also that degree of flexibility of joints as well as of muscles which allows a free and easy movement of all parts, and which has the *muscular sense* so developed as to aid the *automatic motions* which the musician, painter, singer, dancer, linguist, actor, elocutionist, orator, and inventor must have to carry forward their work. In each of these classes the muscles must be so *responsive* as to become spontaneously automatic, and respond intuitively and involuntarily, as it were (after a certain number of repetitions), to the sensations which call them forth.

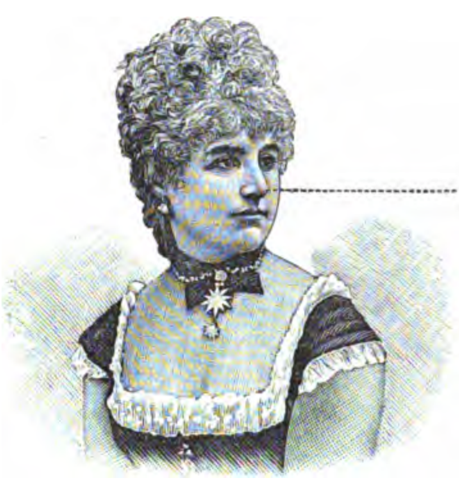

FIG. 72.—MISS ADELAIDE NEILSON.

Born in England. Conspicuous facial sign, Ideality, shown by the width of the tip of the nose. The law of the straight line and curve governs this countenance. The oval chin, dramatic jaw, and straight outline of the nose announce artistic power of a high order. The domestic traits are well represented. The Love of Home, Patriotism, Benevolence, Amativeness, Love of Young, Approbativeness, Modesty, and Friendship are all apparent. The nose reveals the signs of the artistic mind; here are grouped in large measure Ideality, Mental Imitation, Analysis, Hope, Constructiveness, Acquisitiveness, Veneration, and Self-will, all conspicuous. Prescience, Observation, Form, Size, Color, Locality, Language, Music, Calculation, Memory of Events, and Intuition are large, and together form a most beautiful, artistic face. Miss Neilson was as beautiful as a poet's dream, and whoever has witnessed her incomparable impersonation of "Juliet" will remember it as "a thing of beauty and a joy forever."

Another secondary base is found in the high development of the sexual instinct, which in its *refined state* creates love of the beautiful of the opposite sex and a desire to reproduce it physically or mentally, by pen, brush, or chisel, as in poetry, paintings, or statuary, or to enact beautiful ideal characters upon the stage. The fundamental desire of Ideality is reproduction or duplication of ideal types or images of beautiful men, women, birds, beasts, or characters. In this way Ideality is very closely related to the *constructive, creative powers of the sexual system.*

Ideality, like all other human faculties, is adapted to the recognition and enjoyment of the beautiful here in this world, and by imagination the mind is able to roam to other spheres and sing in tones of sweetest melody of the glories and splendors of the life hereafter. In fact, this faculty is adapted to *perfection*, and who can doubt that ultimate perfection is the aim of a progressive evolution? The teachings of science point to this, and show us by myriad lessons that this is the destiny of the human mind and body; for both rise or fall together, as I have shown in these pages, and as all the sciences which treat of human existence prove, if rightly interpreted. The aim and office of Ideality is to *refine* and *exalt all the faculties* in combination, hence it is a faculty of *high quality*. Ideality can be best expressed by those who are keenly sensitive and able by virtue of their sensations to receive and reproduce by voice, pen, pencil, brush, and chisel the impressions derived from Nature and character. All great poets depend upon the power of this trait, assisted by Language and Constructiveness, to enable them to write the songs which arouse the heart of a nation to patriotic endeavor; to raise the mind to loftier aspirations for a higher life; to create the most ecstatic enjoyment of the beautiful scenes of Nature which the poet paints with his pen when he brings up

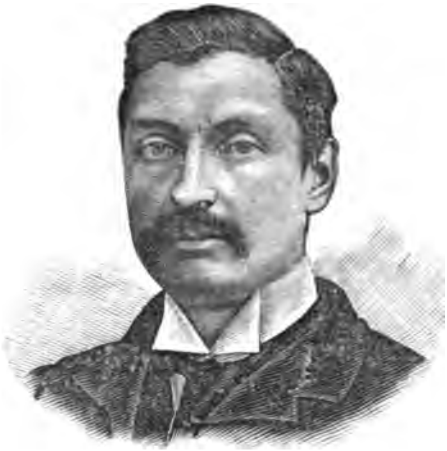

FIG. 73.—MR. H. RIDER HAGGARD. (NOVELIST.)

Born in England. Conspicuous facial sign, Ideality, shown by width of the tip of the nose. The law of the straight line and curve governs this face. The basis of this gentleman's talent, the vegetative system, is well developed. Conscience, Firmness, Love of Home, of Country, and of Young are marked. So, also, are Benevolence, Economy, Alimentiveness, Modesty, Approbativeness, Friendship, Self-esteem, Hospitality, Pneumativeness, and Color are manifest. In the nose the signs for Ideality, Sublimity, Mental Imitation, Analysis, and Construction are large. Acquisition, Veneration, Executiveness, Reason, and Self-will are most apparent; while Form, Size, Observation, Locality, Calculation, Time, Order, Memory of Events, and Language are conspicuous. Prescience is noticeable, and a good degree of Intuition. It is the presence of so large a development of the faculties of Prescience, Credenciveness, and Ideality that gives to this author's writings their peculiarly weird and strange character. Language is most fluent, and, combined with the faculties of Form, Size, and Locality in excess, gives the writer power to visualize the singular beings which he portrays by his pen.

before our mental vision the loveliness of glen and grove, the grandeur of the lofty mountain, the beauty of the star-decked sky, the sweet serenity of the moonlit vale, or the solemn hush of the early dawn when the "lark at Heaven's gate sings." All these the poet, who is touched with true Parnassian fire, spreads before those who are responsive, and with such vividness and reality as to bring these scenes out before their enchanted gaze in boldest relief. Those who are capable of appreciating these ideal beauties are lost in admiration of the skill and genius which, by a few strokes of the pen, can impart that supernal enjoyment which is derived from the works of Tennyson, Bryant, Whittier, Milton, Wordsworth, Shelley, and other great poet-painters.

Combe very correctly expresses the true use and function of Ideality when he writes:—

> It is a faculty purely of enjoyment,—one whose sole use is to *refine* and *exalt* and extend the range of our other powers; to confer on us higher susceptibilities of improvement and a keener relish for all that is great and glorious in the universe.*

Ideality, like all the higher traits, is not confined to nobles or kings, but finds its home in the peasant's cot and humble dwelling as well. It tells not only that its possessor is refined, but shows that some of his ancestors belonged to the "nobility," for traits of *quality* are not formed in a generation; and so one not only announces his own character by what he says and does, but at the same time discloses the prominent tastes of his ancestors, near or remote, for like produces like, and our deeds do follow us to even the tenth generation and beyond.

Great diversities of degree of this faculty are exhibited by different nations. It is not so large in the English as in the French, nor so general; the dress and manners of the two races prove this. It is more universally characteristic of the Americans than of the English, for education, money, and opportunities for travel are more accessible to the masses of the former country, and these are all potent factors in the culture of æsthetics. Then, too, the great admixture of *high races* in America gives more *flexible* muscles, and these lead to and assist *adaptability* to new conditions, while the strong bones combined with the sturdy, unyielding muscles of the English tell directly against that flexibility so essential to ideal improvement. It is these staunch elements which make the English so enduring, hardy, loyal, overbearing, and immovable, and produce the set, rigid, brusque, rude manner and conversation which Emerson so aptly portrays in his "English Traits." These qualities which make the glory of England prevent the people from being as tasteful, polite, amiable, and art-loving as the French. The national peculiarity of the structure of the English he thus describes:—

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* Combe's Lectures on Phrenology, p. 219.

> It is the fault of their forms that they grow stocky, and the women have that disadvantage,—few tall, slender figures of flowing shape, but stunted and thick-set persons. The French say that Englishmen have two left hands. They are round, ruddy, and handsome,—at least, the whole bust is well formed, and there is a tendency to stout and powerful frames.*

Of their immovability he observes:—

> He has stamina; he has that *aplomb* which results from a good adjustment of the moral and physical nature, and the obedience of all the powers to the *will*, as if the axes of his eyes were united to his backbone and only moved with the trunk.†

This description discloses to us that the peculiar staunchness, tenacity, integrity, and lack of Ideality of the English is the result of their peculiar conformation, possessing short, square bones and round muscles, with a good development of the vegetative system; they lack the flexibility which long, round bones and round muscles produce, together with the creative and imaginative powers which accompany the latter and which are peculiarly the endowment of the French and Italian, as well as common to all the Celtic race. Yet the English have their compensation for this lack of imagination; they have the sturdy qualities which make a progressive civilization rapid and thorough, viz., veracity, honor, mutual confidence, loyalty to principle, and all the *sterner* traits which belong to an advanced race. Emerson quotes Madame De Stael as saying that

> The English irritated Napoleon mainly because they have found out how to unite success with honesty.‡

The French show by their structure that the possession of the finer and more ornate qualities is at the expense of the more sterling and responsible ones. They possess a sensitive nervous system; long, round bones and long, round muscles—the combination which shows the right construction for the fine arts, for poetry, acting, painting, and a passion for war, which is led on by one of the dominant traits of their structure, viz., Approbativeness, and, this trait being a natural one, the glory of France is the true Frenchman's highest ambition. Of course, honesty is found among the French and poetic imagination among the English, but these traits are relative, taste, politeness, love of ornamentation, and imagination being more universally exhibited by the French, and veracity, honor, principle, conservatism, rudeness, bluntness, and practicality by the English masses.

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* English Traits, R. W. Emerson, p. 71.

† *Ibid.*, p. 108.

‡ *Ibid.*, p. 122.

The faculty of Ideality, strange as it may seem to some, is a great aid to scientists and scientific research, for the mind that would soar to Parnassian heights in poetry, or to celestial space in astronomy, must be able with the mental vision to see "apparent pictures of unapparent natures." This is the faculty which has aided in the discovery of many great natural laws, and the physiognomics of most of the master-minds in invention and science exhibit the sign for Ideality large. Applicable to this topic Emerson tells us that

> Plato had signified the same sense when he said: "All the great arts require a *subtle and speculative research* into the law of Nature, since loftiness of thought and perfect mastery over every subject seem to be derived from some such source as this."*

All the great scientists recognize this truth, and it is often noted by them in their writings, and the result of German imagination is given us in the works of their great scientific discoverers, who are the grandest generalizers in scientific research. The capacity for generalizing is, as Emerson very justly observes, "a poetic sense." It is indebted to Sublimity for the *vastness* of conception, and of this trait the insular English have very little. Of their science Emerson remarks:—

> But, for the most part, the natural science in England is as void of imagination and free play of thought as conveyancing. It stands in strong contrast with the genius of the Germans, those semi-Greeks who love analogy, and by means of that height of view preserve their enthusiasm and *think* for Europe.†

The following extract from the writings of Johannes Müller, one of Germany's most gifted naturalists and scientific discoverers, elucidates the faculty which is being discussed. He observes thus:—

> The Imagination is an indispensable faculty, for it is that which by forming new combinations occasions important discoveries. The naturalist needs both the discriminating powers of abstract reason and the generalizing power of the imagination, and that the two should be ***harmoniously*** *inter-related.* If the *proper balance* of these faculties is destroyed the naturalist is hurried into chimerical fancies by his imagination, while the same gift leads the gifted naturalist of sufficient strength of reason to the most important discoveries.‡

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* English Traits, R. W. Emerson, p. 240.
† *Ibid.*, p. 253.
‡ Quoted from the Evolution of Man, Ernst Haeckel, vol. ii, p. 107.

This observation of the great scientist is most just, for where there is an excess of Ideality the individual imagines unreal, improbable, and often fearful as well as beautiful ideas. Dante, in his "Inferno," shows to what extent the imagination can go in the direction of the horrible. Milton, also, in his "Paradise Lost," reveals to what limits the unrestrained exercise of the imagination may lead one; while the paintings of the old masters teem with the representation of demons and angels, of sprites and satyrs, of heavens and hells—the lovely and hideous as well as the damned and demoniacal. Aside from the immense importance of the imagination when used as an agent to beautify and elevate the mind and senses, as is done by poetry, pictures, and statuary, it forms the basis of the refinements of our every-day life and works. The domestic woman who possesses a fair share of imagination may not be able to write a poem nor paint a picture, yet will set a table with such taste and prepare and serve a meal with such neatness and fitness of decoration as will show that a sense of the ideal has toned and softened her nature to that degree that coarseness cannot enter into the least detail of her domestic occupations. Every community possesses many such characters, and their sense of the fitness of things, of propriety, of ornamentation, of nicety and neatness throws a charm around all their efforts. They are most helpful in elevating commonplace acts of every-day life, and their example sheds abroad an influence which is truly refining.

There are many degrees of this faculty, and the being who possesses little of this useful sense is cut off from most of the enjoyments which Nature and art alike offer in such abundance. He is also less useful in the practical walks of life, for as imagination gives him no assistance he must hence depend upon *teachers*, and work by rule and method, never discovering nor inventing new ways and ideas through the operation of an active imagination.

The matter-of-fact person is much more helpless than he who has even a fair share of ability to imagine how acts and works are performed of which he has had no previous experimental knowledge. The matter-of-fact person must be *taught* all that he does, but one with a good imagination can comprehend the duties of positions for which he has never been trained, and can fill them at a moment's notice in a very acceptable manner.

Imaginative children are far more capable of self-amusement than those who are matter-of-fact, for they will *originate* little games and give birth to characters, localities, plots, and incidents in a very entertaining manner, while the matter-of-fact children must be provided with objects and assisted by the suggestion of others in order to make a game pass off satisfactorily.

Where large Observation and other practical faculties are found in combination with a good degree of Ideality, the character will exhibit a *talent* of common sense, with capacity for filling many diverse positions with readiness and completeness. Many New Englanders possess this combination, which the old ladies term "faculty,"—that is, a handiness which enables them without preparation to perform many diverse and important duties.

Sharp-pointed, gimlet-shaped noses belong to matter-of-fact people, who possess little refinement, good sense, or artistic perception, and thus are deprived of those enjoyments of Nature and art that fill a large part of the life of the idealist. I regard such persons with pity, for they are poor indeed. It requires a great deal of money and material to satisfy the latter class, for they cannot derive a moment's entertainment from the observation of the most beautiful landscape in the world. Mountains to them are only so many dirty rocks; the dewdrops, glistening upon the lawn, are only impediments to walking; Niagara, foaming and dashing in grandeur down its depths, only elicits from them the criticism of the Englishman who, when taken by a romantic friend to visit this majestic fall, remarked: "What's to 'inder it falling?" Such insensitive souls remind one of the matter-of-fact Peter Bell, of whom the poet wrote:—

"A primrose by the river's brim
A yellow primrose was to him—
And it was nothing more."

In the case of Ideality, as with all of the higher constructive faculties, there are two ways of manifesting its presence. One may be executive, and by the help of Constructiveness be able to make or create some work of art or beauty, as, for example, a poem, painting, or statue; or he may be capable of enacting a grand character, such as Ristori or Salvini impersonates, while others with less Constructiveness are capable only of *appreciating* the efforts of the former, yet their enjoyment of the beauties and excellencies of these works may be and often is greater than that of those who create them; one has the talent of *creation*, the other the talent of *appreciation*.

The natural allies and assistants of Ideality are Analysis, Constructiveness, Mental Imitation, Sublimity, and Acquisitiveness. The imagination requires the aid of Sublimity to give grandeur to the great imitations of Nature in her most majestic moods. It requires also the capacity for separating and analyzing the constituent parts of everything which the artist would imitate by his mental conceptions of the scenes before him. Constructiveness, too, is most essential, for, without the skill of handicraft, the power of manipulating materials by the flexibility of the muscles, as in acting, oratory, singing, playing, and gesture, the artist would stop short at appreciation, and there would be no works of art constructed, no songs sung, no characters enacted,—hence no progress made in taste and refinement.

Now, we find that those who possess Ideality and Constructiveness with Acquisitiveness are those who construct the fine works which ornament our homes and add to our elevation of mind; while those who possess Ideality large, with small Constructiveness and Acquisitiveness, are the appreciative people who admire and buy these works, and who fill the opera, theatre, and forum to see and listen to the grand creations of poet, painter, actor, and orator. One not understanding the significance of Acquisitiveness might not see its relation to the art-faculties. The artist must have the capacity for *acquiring* materials and money to carry on his plans, else he would make no effort to procure money, but pursue art without reference to gain. The portraits of all the great artists disclose this sign very large. It is located next to Constructiveness in the nose and adjoins Ideality and Sublimity, and is very near Human Nature. It is also most decided in the upper eyelid. Let the reader examine the portraits of Guido Reni (who was said by his biographers to be very *avaricious* and a great gambler), John Flaxman, Schiller, Canova, Sarah Siddons, Mdlle. Rachel, Rembrandt (who was also very avaricious), Claude Lorraine, Titian, Rubens, Raphael, Beethoven, Bach, Weber, Handel, Tennyson, Byron, Dickens, and also the faces of all creative geniuses, and he will find large Constructiveness and Acquisitiveness. In some instances this trait does not take the form of *acquiring* and amassing *money*, but it shows its strength by acquiring *materials* for the work required,—not only materials, but *opportunities* and *occasions*. The lover of books seeks to acquire books; the lover of art to acquire art-objects; the seeker after ideas searches far and wide for them. Had I pursued dollars as industriously as I have ideas, and stored them as well, I should now have a bank-book instead of a scientific book. I can understand the greed for gold by my own greed for ideas.

Biography is the natural assistant of physiognomy, and in studying the faces of the great and wise who are gone we can account for all the peculiarities of character noted by their biographers. I advise my readers to use this channel of knowledge in connection with this science, particularly if they can find books illustrated with portraits.

Savage races show by their love of rude decorations that they possess at least a *germ* of the ideal, personal decoration being one manifestation of this trait. The animal kingdom, however, in every department exhibits an affluence of the decorative phase of Ideality in its show of bright colors and beautiful forms, and, as we reason logically that all physical appearances are accompanied by suitable mental traits, so we must allow that insects, butterflies, moths, etc., are keenly alive to the beautiful in form and color, while birds show by their manners that the color-sense, love of music, of form, and of atmosphere are pre-eminent in many species. Apropos to this, Darwin remarks that

> No doubt the perceptive powers of man and the lower animals are so constituted that brilliant colors and certain forms, as well as harmonious and rhythmical sounds, give pleasure and are called beautiful.*

The fact that birds are possessed of a very high sense of form and color is proved by the methods which they make use of to display to each other their beauties of form, color, and voice. Of this sense of the beautiful in birds Darwin observes thus:—

> Ornaments of all kinds, whether permanently or temporarily gained, are sedulously displayed by the males, and apparently serve to excite or attract or charm the females. All naturalists who have closely attended to the habits of birds, whether in a state of Nature or under confinement, are unanimously of opinion that the males delight to display their beauty. Audubon frequently speaks of the male as endeavoring in various ways to charm the female. Mr. Gould, after describing some peculiarities in a male humming-bird, says he has no doubt that it has the power of displaying them to the greatest advantage before the female. It must be a grand sight in the forest of India to come suddenly upon twenty or thirty pea-fowl, the males displaying their gorgeous trains and strutting about in all the pomp of pride before the gratified females.*

The above not only proves that the birds have a high realization of beauty, or Ideality, but that personal vanity or excessive Approbativeness is the peculiar attribute of the *males*, and is shown by the number and variety of their numerous extra appendages, such as wattles, combs, tufts, shafts of feathers, etc. This subject is treated at length in the discussion of "Approbativeness."

The dimpled chin is more commonly seen in man than in woman. Nearly all the most celebrated poets, painters, actors, and sculptors exhibit a dimpled chin. This is a secondary sign of Ideality, but a very important significator, for it is a sure indication of the love of the beautiful in the opposite sex and bears a strong relation to creative art. It assists the artist or poet in forming and selecting objects of loveliness and beauty in his ideals.

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* Descent of Man, Charles Darwin, vol. ii, p. 337. † *Ibid.*, p. 83.

The straight outline of the nose is another sign of ideal beauty, refinement, taste, and often of poetic feeling. Wherever exhibited it will take one or the other of these forms. Large, bright eyes, if accompanied by a skin of fine texture, reveal a love of beauty and taste; so also do regular, arched, narrow, smooth, and finely-delineated eyebrows. All these characteristics are never observed in the faces of very coarse or low people. I have never seen a dimple in the chin of a Negro, nor any indications of one in the physiognomy of a Tasmanian, a Bosjesman, Papuan, Fuegean, Patagonian, North American Indian, Caribe, or any of the barbarous, undeveloped races, proving conclusively that Ideality is farther advanced in many of the animal tribes, such as birds, butterflies, and insects, than in the former. All animate nature presents these apparent anomalies, and we find by close investigation that many species of animals exhibit certain senses more acutely than even the most advanced races of men.

Ideality as shown by the dimpled chin is a mark of beauty in itself, and is caused by a peculiar arrangement of the menti muscle. All art-signs are located in the muscular system, and beauty of the human form is due mainly to the outlines caused by the pliable and curving nature of muscular tissue.

HUMAN NATURE.

Definition.—Intuitive perception of human character by the form, size, color, motion, and expression of man; the physiognomist; spontaneous comprehension of physical and mental conditions of health and disease; the natural physician; capacity for readily comprehending the laws and conditions of animals, plants, and all natural objects; one of the chief faculties of the naturalist, chemist, physiologist, astronomer, poet, painter, scientist, novelist, actor, and detective.

An *excess* causes one to be curious, observing, acute, astute, and prying into the habits, thought, and actions of men and animals, and all things which manifest character. With a good mental development it will lead one to pass his time in studying metaphysics, physiognomy, and kindred sciences. No restraint is necessary unless one infringes upon time that should be devoted to more essential objects. A life-long study, however, should be given to this branch of knowledge, according as one's time and circumstances permit.

A *deficiency* makes one suspicious of motives, and leads to disastrous complications in business, love, and friendship. To remedy this natural defect take lessons in physiognomy of some capable teacher, or read works on this subject and commence a course of observation and analysis; observe the voice and compare it with the actions and walk; learn the meaning of the forms and colors of the human face, nose, eyes, forehead, and chin, and endeavor to suspend judgment of character until sound, scientific knowledge reveals their significance.

Facial and Bodily Signs.—The most prominent sign for the faculty of Human Nature is found in the height or elevation of the tip of the nose above the plane of the face, causing it to stand far out and above the surrounding part. It assists also in giving width to the tip in conjunction with Ideality and Sublimity. Each of these traits adds to the development of width at this point. General size of the entire nasal organ usually accompanies a *gifted* endowment of the faculty of Human Nature. *Fineness* of the texture of the skin and brightness of the eyes are also secondary signs.

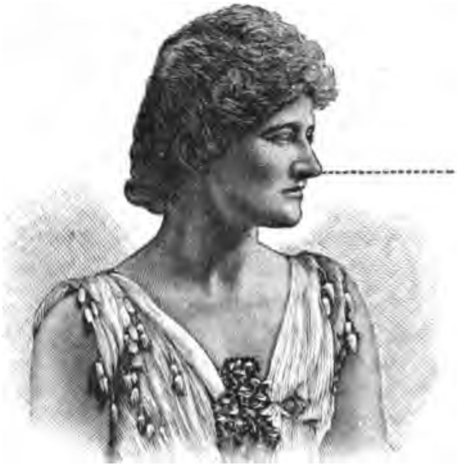

FIG. 74.—MARY ANDERSON. (TRAGIC ACTRESS.)

Born in California, 1859. Principal facial sign, Human Nature, shown by height of the point of the nose above the plane of the face. The law of the curve governs this face. Keenness of sensation is one of the leading factors in this character. The talent for tragedy is shown by the curving lower jaw. The signs for Firmness, Conscientiousness, Pneumativeness, Love of Home, and Patriotism are marked. Amativeness and Modesty in the upper lip are large, Approbativeness and Friendship in the cheeks well defined, while the signs in the nose of Human Nature, Constructiveness, Acquisitiveness, Ideality, Hope, Analysis, Sublimity, Veneration, Executiveness, and Self-will are remarkably conspicuous; so also are Form, Size, Language, Observation, Memory of Events, and Intuition, with the color-sense sufficiently developed to give force and magnetism to her impersonations.

Other signs of this power are shown by width between the eyes (Form) and fullness of the ethmoid bone at the inner corner of the eye (Size). Examine the physiognomies of Aristotle, Lavater, Porta, John Locke, Desbarolles, Delsarte, Dr. John Hunter, and Dr. William Harvey for the signs of a talented degree of the faculty of Human Nature.

DESCRIPTION OF HUMAN NATURE.—Says Swedenborg:—

> If we cannot read Nature's secret in her countenance, can we expect to divine it from her very brains?*

Dissections of all the brains in the universe would afford us but little knowledge of character. Neither would the *weighing* of all these brains reveal any natural gifts or tendencies; nor does the exterior *form* of the *skull* give us a *complete* knowledge of character. The human mind is made up of a series of faculties having their base and ground of action in *physical functions.* When these functions are destroyed partially or completely, the mental faculties derived from them are partially or entirely destroyed; hence, it must be patent to all unprejudiced minds that in order to fully comprehend all the different phases of human character we must examine every part of the anatomy and every part of the mechanism through which Mind is alone able to manifest its powers.

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*Animal Kingdom, Swedenborg, p. 342.

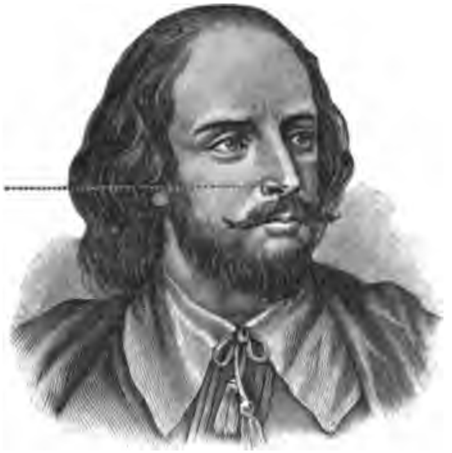

FIG. 75.—WILLIAM SHAKESPEARE. (DRAMATIST, POET, ACTOR.)

Born in England, 1564. Quality of the highest. Conspicuous facial sign, Human Nature, shown by the height of the tip of the nose from the plane of the face. The law of the straight line and curve governs this physiognomy. The lower third of this face is well developed; the chin is rounded, the lower jaw curved,—thus showing the dominance of dramatic power. Amativeness, Love of Home, Patriotism, Love of Young, Friendship, Approbativeness, Color, and Sanativeness are well defined. The mental signs in the nose are all large. Human Nature, Mental Imitation, Ideality, Sublimity, Hope, Analysis, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will unite to form a nose of the highest class. The outline of the nose is straight,—sign of poetic or æsthetic capacity. The signs of Prescience, Observation, Calculation, Form, and Size are uncommonly developed, while Memory of Events, Reason, and Intuition take on a sublime cast.

A high degree of the capacity for comprehending Human Nature is found only in the most developed persons of the most advanced races. This faculty is one of quality, and belongs to a progressed evolution. Although a certain degree of this trait is found in all races and peoples, yet its highest manifestations are exhibited by such persons as Aristotle, Porta, Lavater, Socrates, Desbarolles, Delsarte, and other gifted physiognomists. Their countenances, as well as their writings, *corroborate the signs for Human Nature*, which in the instances named are very prominent and noticeable. This faculty, then, being the special gift of highly-organized beings, we shall naturally look to a development of that feature which is the most distinctively human, viz., the nose, for our proofs of its existence. Not only should we examine this feature as a whole, but we should closely scrutinize the portion which is most developed in developed people. Now, the lower third of the nose is this part, and in the physiognomies of all the great character-readers of the world we find that the point of the nose extends high above the plane of the face, and, as there is a concurrence of this peculiarity in this class of minds, we are justified in stating that this is the most decided and primary sign for this capacity. The neighborhood, too, in which this sign is situated is another proof of its high origin, for in its immediate vicinity are found all of the most highly-developed signs of character, such as Analysis, Ideality, Sublimity, Constructiveness, and Mental Imitation. The logic to be deduced from this combination of physiognomical evidence is that the faculty of Human Nature is derived from a high development of mind and body; in other words, from a *finely-organized condition of the entire mental mechanism, particularly of the brain and nervous system.* The tip of the nose is composed of cartilaginous or muscular fibres, and is supplied with nerves from the second division of the fifth pair of the cranial nerves, which is, as Dalton states, "the most acutely *sensitive* nerve in the whole body,"* and uncommon sensitiveness of any part denotes high organization; in other words, it indicates superior intelligence.

Now that the physiological base of this faculty has been traced and described, I shall proceed to expound some of its leading mental uses and manifestations.

In defining the scope and meaning of Human Nature, I understand it to be a faculty which gives the power of discerning not only the character of human beings, but also the character and condition of all natural objects, laws, and truths. It is manifested in different ways and degrees by the various minds who exhibit its presence. The physician, divine, teacher, lawyer, statesman, actor, merchant, painter, and muse all depend upon its power for their success. The animal-trainer has great need of its power in training animals either for domestic service or for exhibitions. The same faculty is brought to bear upon dogs, horses, camels, elephants, monkeys, and other brutes useful to man. All the higher animals are good natural readers of human character, as well as of animal character; while trained domestic animals, birds, insects, and reptiles even evince great capacity in this direction when trained and permitted to be the companion of man. On this subject Dr. Lindsay observes thus:—

> The dog becomes also a very keen and successful student of man's *physiognomy.* It carefully scans his countenance in order to the detection of its earliest clouds or sunshine. If it sees its master's face covered with frowns, it infers anger and expects kicks,—an inference and anticipation that lead it quietly to get out of the way. If, on the other hand, it meets smiles or laughs, it greets its master joyously, in its own way reflecting and

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* Dalton's Treatise on Human Physiology, p. 458.

reciprocating his good humor. Should tears unexpectedly appear, it offers sympathy and condolence in forms as eloquent and unmistakable as man himself can use to brother-man. In coming by such means to a conclusion how far it has reason to fear or to trust man, the dog is very much on a footing with the child (Darwin).*

All great discoverers, inventors, naturalists, musicians, actors, and dramatists have this sign well defined, and find great need and use for the power which intuitive knowledge of human nature gives. This sign, like all the others which cluster about the tip of the nose, belongs to *perfected* races and people. The undeveloped races and undeveloped persons among the developed races are lacking in this faculty, and hence they use Suspicion, Jealousy, Conceit, and other *animal-like traits* in place of this accurate character-reading power. All things in Nature carry their signs of character along with them, and show by their form, shape, size, color, and quality what they are, the rank they hold in the world, and their ability for usefulness or for destruction. Nature never lies, and if we fail to read *correctly* it is owing to *our want of observation* and acuteness, and no fault of Nature's. As soon as we have become fully satisfied that all things in Nature proclaim their character by their appearance, just so soon shall we commence to understand her at her work. We have been blessed with the faculties of Observation, Reflection, Form, Color, Size, Order, Imagination, Sublimity, Human Nature, and Acquisitiveness, and we find in Nature's works the principles of Form, Size, Color, Beauty, and Sublimity to be understood. Is there no meaning and proof in this adaptation of these conditions of Nature to the

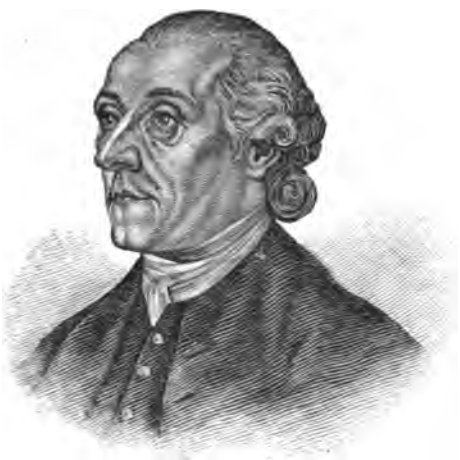

FIG. 76.—JOHANN KASPAR LAVATER. (DIVINE, POET, AUTHOR, PATRIOT, PHYSIOGNOMIST.)

Born in Switzerland, 1741. The law of the straight line, curve, and square governs this face. Principal facial sign, Human Nature. The signs for Conscience, Firmness, Love of Home, Love of Young, Patriotism, Benevolence, Self-esteem, Amativeness, Modesty, Approbativeness, Economy, Sanativeness, and Friendship are well defined. In the nose the signs for Human Nature, Ideality, Analysis, Mental Imitation, and Constructiveness, Veneration, Executiveness, and Self-will are very large. The signs for Observation, Form, Size, Language, Calculation, Memory of Events, and Intuition are conspicuous. The logical or reasoning capacity is not great. It is the face of an artist, not a scientist; hence his works treat of physiognomy as an art, not as a science. The above portrait discloses a mild, modest, earnest, conscientious, humane, religious, and literary character.

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*Mind in the Lower Animals, J. L. Lindsay, M.D., vol. i, p. 352.

mental and moral faculties of man? If we can discover the character of minerals as seen in Nature by their forms, sizes, and colors, do you think that it was intended that Man's natural knowledge of natural laws and conditions should stop there? Prof. Dana, the celebrated mineralogist, discoursing on the knowledge of character as exhibited in the mineral kingdom, remarked thus:—

> The earth may be said to have crystal foundations, and if there is not the beauty of external form there is the interior, profounder beauty of universal law. Each mineral, with but few exceptions, has its *definite form* by which it may be known, and as truly as a cat or dog.

The proof of this sign and its accompanying faculty is easily found, for if we investigate the lives and scan the faces of all who discern the truths, laws, and principles of Nature we shall find the signs before mentioned quite prominent, and where we observe these signs we shall find those who possess them to be lovers and investigators of the natural sciences—lovers of truth, hence enabled to comprehend universal truth, and with an insatiable desire to know the *facts* of Nature as they exist. This sign occupies the most prominent place in the face, and its position shows its importance. It is adapted to the welfare of humanity, and those who possess this faculty in a talented degree are found in those pursuits which tend to elevate the race or to relieve its distress,—such, for example, as physicians, inventors, reformers, poets, painters, sculptors, actors, naturalists and scientists, physiognomists, hygienists, and physiologists.

Those who possess a large share of this faculty can not only discern those who are most fit to be the progenitors of an improved race, but are also themselves capable of reproducing superior types by reason of the excess of this faculty, which denotes a degree of perfection not observed in those who exhibit only a very small amount of this trait. The physiognomist and hygienist, physician and scientist must be endowed with a large measure of Human Nature in order to comprehend the facts and conditions appertaining to their various departments of research. Doubtless the *primary* use of this knowledge is for the purpose of selecting right partners in marriage, for we know that all primary faculties are for the sustentation and preservation of the race, while the primary use of all the more developed and perfected faculties is for the development of mankind. The secondary use of the later acquisitions to the human mind is for the further perfection of the race by transmission, and we know that the talents and moral and intellectual virtues which have been cultivated from one generation to another are aggregated and intensified by several generations of culture, and are then transmitted in that highly specialized condition. It is by such course of action (which is carried on in most cases without reference to this end) that races of singers, actors, judges, and even giants and dwarfs are created as distinct types.

> It is a historical fact that there were fifty-seven eminent musicians of the Bach family in Germany in the course of eight generations, and hundreds of good musicians who did not take rank as eminent. We find in history, also, a record of the race of giants which Frederick William and William II created by marrying the tallest women in the kingdom to their guardsmen,—men who had been selected for their height.*

This method of scientific selection is but rarely attempted, yet such a plan for the improvement of the race by design should be put in practice by all intending marriage. The advice of a good physiognomist or physician should be had. The reason why we find so many perverted specimens of humanity is explained in the following extract:—

> In most cases, however, man does not use his reason and observation in a positive manner for improving the race, but the process which we call evolution, or progressive development in man, animal, and plant, is carried forward by what is denominated "natural selection." This is a sort of blind, instinctive, unconscious manner of selecting mates, and in this *slow* method the races of all the departments of Nature have progressed through the ages that have passed.†

When we observe so many vicious, weak, sickly-looking parents endeavoring to rear offspring we often think that the race must surely become extinct, and were it not for another circumstance which we may say really acts as a law the extinction of the human race would ensue. The "survival of the fittest" is a term that the late Mr. Darwin has made popular, and it is by the survival of the fittest that the race is carried forward slowly, yet surely, by that progressive development which naturalists and physiologists know to be an undeniable fact in Nature. When the laws of our physiology have been so outraged as to produce types too weak to survive the period of childhood, they die off and leave only those who have *sufficient vitality* to become the progenitors of a superior race or type. This *weeding-out* process, which acts naturally and unconsciously, is the salvation of humanity, and we shall find, if we observe with the eyes of science, that in Nature outraged law executes its own penalties. "The man who sinneth he shall die" says the Scripture, and we know that men do not have to wait until life is extinct to suffer for their own transgression as well as for the transgressions of their forefathers. We are not living for ourselves exclusively, but really and truly for eternity. It is a duty—a religious duty—to study the physiology, anatomy, and hygiene, as well as the physiognomy, both of animals and men. In this way our knowledge of Human Nature will be perfected, and *thus* we shall be able to assist in selecting suitable persons to become the progenitors of a higher race, morally, mentally, and physiologically; and, since all experiences are transmitted, our own perfection in character-reading may descend to children and children's children unto many generations. This is another use to which we can put our knowledge of Human Nature. Common sense, like Human Nature, is only inherited experience.

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* Hereditary Genius, Francis Galton, p. 239.
† The Human Species, Quatrefages, p. 253.

Children while yet in the stage of animal instinct evince a large share of this faculty, as all mothers can testify when they find their infants, even, taking advantage of their love as well as of their weakness of mind, playing upon their feelings as skillfully as a professor upon the piano. Now, I do not use the term "instinct" in a degraded or ignoble sense, for it is in many ways superior to reason, and it is the faculty most relied upon by animals in their intercourse with men. The infant also relies upon it entirely until education and training modify it, and he then looks to rules, laws, and precepts for his guidance in place of his inherited perceptions or instincts; while partial idiots are much lower than infants in this sense and not so high as dogs or horses. Savages, too, rely in a great measure upon their feelings in regard to approaching others, while all the higher domestic animals possess and exhibit an instinctive perception of character of a high order. Dogs seldom approach or endeavor to make friends with one who does not like animals.

Of the manifold and beneficial uses of the faculty of Human Nature I have scarcely space to speak. Its possession in a large degree robs one of suspicion and of the hatred and jealousies founded on misinterpretation of character and motives. A good, true physiognomist, one born such, has neither jealousy nor suspicion in his composition. Were this the case he could not give a *correct* rendering of character, for he would substitute his suspicions for truths and thus falsities and errors would mark his renderings of character. A lack of this faculty makes one narrow-minded, and such persons are ill-fitted to comprehend the infinite opulence of Nature or to decipher her ethnic hieroglyphics, as observed in the faces and forms of savage races, idiots, and criminals, for the laws of undevelopment must be understood as well as the laws of development. "Nature's speaking marvels" in the characters of man and beast are truly wonderful, yet can be comprehended by those who possess the right equipments of character, and no shadowy sophisms will deceive the naturalist who has an eye for truth and who is at once "a devotee to facts and a master of the highest abstractions,"—such, for example, as Aristotle, Newton, or Bacon. The graphic methods which Nature uses to reveal the characteristics of plant, animal, and mineral are as correct as numerous. It is the duty and province of such as heredity and evolution have furnished with natural gifts to make known to those less favored the signals, emblems, and significations of form, size, color, and quality which are the distinguishing features of every separate atom, organized object, and being in existence. These high gifts should be cultivated and devoted to the service of humanity in a religious spirit. It is in this spirit—the spirit of truth—that such men as the Herschels, Darwin, Spencer, Cuvier, Linnæus, Lavoisier, Count Rumford, Joseph Black, Descartes, Agricola, Paracelsus, Tycho Brahe, Wollaston, Faraday, Fraunhofer, and the rest of the grand army of truth-seekers have proceeded to enlighten the world with the truths of *God's laws*, which are at once both gospel and revelation. The moral character of the scientific classes stands head and shoulders above that of almost all other classes, and this results from the fact that a true scientist's character must be built on truth,—on Conscientiousness,—else he would be as incapable of discerning and discovering truths as an artist would be of using colors were he naturally colorless and pallid. The *principles* which one deals with most successfully in his trade or profession must be largely represented in *his own organism*.

The direction which Human Nature will take in its manifestations depends upon the faculties in combination. Where the practical faculties are dominant and Human Nature large, the individual is capable of becoming a physician, physiognomist, or anatomist, and, with large reflective faculties, an inventor. Those with Agreeability, Language, and Human Nature large are adepts in managing people; they are plausible and persuasive, and make good salesmen. With large Approbativeness added, they have the combination for political life; with large Locality combined, they evince a love of travel and discovery. The signs for Human Nature and Locality are very conspicuous in the faces of Captain Cook and Marco Polo.

All great artists, orators, poets, and actors possess large Human Nature and Amativeness. This gives the combination for *creative* efforts, especially in the delineations and descriptions of human characters, forms, figures, etc. The celebrated detectives, Fouché and Pinkerton, disclose Human Nature most decidedly. Talleyrand also exhibits several of the signs for this faculty, and history tells us that he was an adept not only in reading character, in discerning motives, but also that he had that most rare faculty,—the capacity for *managing* and using men at his will.

The science of Human Nature is yet in its infancy. My own contribution gives a foundation-system based on natural laws. The superstructure of accumulated facts must be the work of generations of observers. The scope of this science is not second to the solar system, and as each astronomer adds to our knowledge of its vastness, so must good, observing physiognomists leave to posterity *well-demonstrated truths* which are incontrovertible and corroborated by *all* the other departments of science, and thus rescue this, the grandest and noblest of all sciences, from the hands of the charlatan, ignoramus, quack, and pretender. No profession demands more purity of life, loftier principles, greater knowledge of God's eternal laws, than that of physiognomy. No profession demands a more reverent, devout, and religious spirit, nor one more devoted to absolute truth than this; hence, it becomes its professors to hold the standard of character high, and be their *own exemplars of the highest conscientiousness and of demonstrable truths.*

ACQUISITIVENESS.

Definition.—The desire to gain, obtain, earn, or win money, property, fame, ability, learning, applause, knowledge, or power; the provider and commercialist. The direction which Acquisitiveness will take depends upon the other faculties in combination in each individual.

An *excess* causes one to be frugal, stingy, and small in savings; perverted, it imparts a love for gambling and games of chance, and when unrestrained shows by dishonest methods of business. It gives an insatiable desire for the acquisition of property, knowledge, power, position, fame, reputation, friends, or whatever the *dominating traits* call for.

A *deficiency* causes one to be careless of money or possessions, and tends to prodigality, improvidence, poverty, ignorance, loss of reputation, and no desire for power and its advantages.

Facial and Bodily Signs.—In the human face the most decisive signs for Acquisitiveness are found in the head, eye, ear, nose, jaw, and mouth. A thick, heavy upper eyelid, which discloses a large surface while the eye is open, giving a sleepy look, is a very noticeable sign of this trait. This sign is observed mainly in Oriental races. Another sign is shown by a fullness and breadth of the sides of the nose just above the nostril. The high-arched, convex, or hooked nose, resembling the beak of the bird of prey, is another sign of commercial rapacity, as well as of the love of overcoming one's enemy or of removing obstacles in the way of glory, fame, or learning. Wide, predaceous jaws and large mouth, and head wide above the ears, are also evidences of commercial Acquisitiveness. Most of the great bankers, financiers, and money-kings have very large ears; full, round foreheads, and large, round, stocky frames. Misers, whose sole aim is accumulation, exhibit a pallid, thin, dry, wrinkled under-lip, and body bent forward, the countenance sometimes covered with fine wrinkles, falling in every direction. Numerous small and fine wrinkles all over the face and lips disclose a life of petty cares and small earnings. The hands of misers, as George Combe observes, "go out at the sides as if grasping something." This is caused by the constant effort of the extensor muscles of the hand and arm in reaching forward as if to seize something. This movement arises from the dominant idea of *getting*, and all the outward shapes which the body and limbs assume, if long continued, reveal the dominant impulse within.

In animals, Acquisitiveness is shown by prominence of the middle incisor teeth, narrow mouth, and flexibility of the muscles, particularly of the *flexor muscles* of the fore-paws. This description applies to the rodents, such as the squirrel, rat, etc., while predaceous energy is shown in the carnivorous class by width of jaw, breadth and roundness of the head, prominence of the muscles, broad nose and nostrils, capacious chest, and strong digestive powers. In the bird of prey it is shown by the convexity of the beak, thick neck, and arching of the claws, and powerful muscular system.

DESCRIPTION OF ACQUISITIVENESS.—The *physiological base* of Acquisitiveness is derived from the nutritive functions; its signs in the mouth and nose are proofs of this statement. Its animal manifestations are another proof, while its sign in the nose, situated next to Constructiveness, and assisting to form the sign for the stomach (width of the bridge of the nose), is still further evidence of its purpose and power in the human organism. The reader will naturally ask what right Acquisitiveness has to settle itself in the artistic and literary group. He will naturally conclude that this trait has strayed away from its position in the vegetative division, and settled in a territory not at all suitable to such a grasping, foraging creature as this Mr. Acquisitiveness appears to be. On the face of it this would seem to be a correct way to look at this faculty, but we must not lose sight of the fact that the *primary use* of nearly all the mental faculties relates to our bodily wants, and that their secondary aspect leads to the improvement and advancement of the race. Ideality tends to the evolution of the race by giving man a love of the beautiful, and thus leads him primarily to select for marriage those whom he conceives to be the most beautiful in order to *reproduce* the same types. This is the physical aspect of this so-called poetic trait. Now, Acquisitiveness in its primary use, both in man and animal, is devoted to *getting*, first, food for sustenance; second, materials for clothes and shelter —necessaries of life; hence, in man the signs for this faculty are found in the mouth and teeth and in the grasping flexor muscles, denoting its animal use and purpose. From this exposition of the primary use of the faculty of Acquisitiveness we are forced to the conclusion that the visceral organization is its primitive physical base. This logic is emphasized by the fact that those men and animals which exhibit the *most* Acquisitiveness, and who are most successful in acquisition on a *large scale*, are those who possess great visceral vigor; for large mouth, jaws, nose, and nostrils announce the presence of great digestive, respiratory, and circulatory powers; while broad, flat heads and round muscles tell us of predaceous energy; hooked noses, of grasping rapacity; and these signs point to similar characteristics, whether found in rodentia, birds of prey, or in the carnivorous classes of animals.

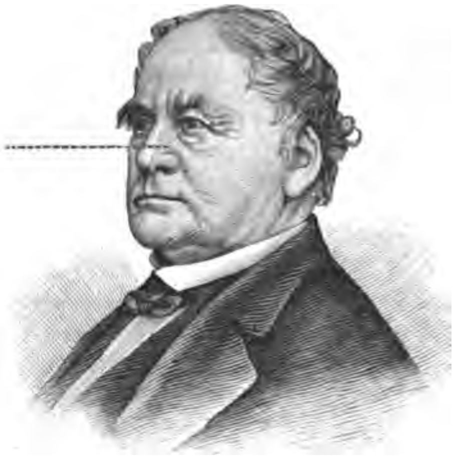

FIG. 77.—MATTHEW VASSAR.

(COMMERCIALIST.)

Conspicuous facial sign, Acquisitiveness, shown by fullness of the nose at the side just above the nostril, wide jaws, large and broad ears, wide chest, head broad just above the ears. The law of the straight line and cube governs this countenance. This face denotes Commercial Capacity and Benevolence about equally developed. The solid expression of the entire face is most striking. The signs for Conscientiousness, Firmness, Patriotism, Love of Home, Economy, Bibativeness, Alimentiveness, Mirthfulness, Benevolence, Friendship, Hospitality, Self-esteem, and Modesty are well defined. Amativeness and Love of Young do not appear very large, for the reason that the mouth has been habitually drawn together in the act of profound thought, yet both these traits are normally developed. The signs of Human Nature, Sublimity, Mental Imitation, Acquisitiveness, Constructiveness, Veneration, Executiveness, and Self-will are most apparent; Observation is most decided, while Language, Locality, Memory of Events, Reason, and Intuition are large. Altogether forming the picture of an exceedingly well-balanced, capable, and kindly nature.

Its more developed *mental* signs are found *above the mouth*, in the eyes and nose, that purely human feature adjoining Constructiveness and in close proximity to other well-known characteristic and literary traits; for the man who would build a home or erect a temple, write a sermon, paint a picture, construct a play, or deliver an oration, must first have the *desire* to *acquire* sufficient material to carry forward his project to a practical completion, and this desire for acquiring materials relates to Constructiveness; hence, its sign in the nose is placed *next* to the sign for building or constructing. It also adjoins the sign for the stomach, which is a muscular-constructive organ that assists by its power and action to *build* the body upon strong and firm foundations, and thus adds to man's capacity for constructive works of art and literature. The idea of the intimate relation between Alimentiveness, Constructiveness, and Acquisitiveness has been noticed by J. Stanley Grimes, the most original of all the early phrenologists. He says:—

> It is remarkable that all the animals that acquire property first make use of their Constructiveness to prepare a proper store in which to deposit and preserve it for future use. The beaver, for instance, makes use of his Constructiveness to gnaw down trees and build a convenient hut, and afterward acquires bark to gratify his Alimentiveness during winter. The rat, also, that notoriously thievish animal, first prepares a nest or hiding-place by gnawing and digging in a manner nearly as ingenious as the beaver, and then begins to *acquire* provisions for the winter. The same is true of nearly all the rodentia. It is interesting thus to trace the connection between the propensities of Alimentiveness, Constructiveness, and Acquisitiveness, and at the same time observe the manner in which they are chained together in the brain.*

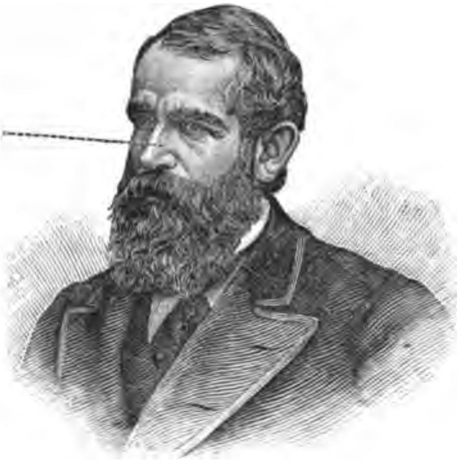

FIG. 78.—JAY GOULD. (FINANCIER.)

Born in America. Conspicuous facial sign, Acquisitiveness, shown by fullness of the sides of the nose, large ears, wide jaws, adjoining the sign for Constructiveness. The law of the straight line and curve governs this face. The indications of the upper part of this physiognomy teach us that most of the domestic traits are normally developed. The signs in the nose show Sublimity, Human Nature, Constructiveness, and Acquisitiveness to be large. This combination enables him to form plans for the acquisition of wealth. The deep color of the eyes, hair, and complexion shows power and intensity of all the faculties. The signs for Veneration, Executiveness, and Self-will are very pronounced; Observation, Form, Size, Locality, and Calculation are well defined; Language normally developed; Memory of Events and Reason are uncommonly prominent. The peculiarities of this mind are similar to those of a chess-player, and it is this construction and combination of traits, quality, and color which give the power for devising schemes for large acquisition. The formation and luxuriance of the hair denote great vitality, and the nose shows descent from long-lived ancestry. Were the lower part of the face visible, the signs for Secretiveness, for which Mr. Gould is noted, would be easily seen. A good physiognomist would be quite able to discern them were he to see the subject face to face.

Some of the animals which possess both large Constructiveness and large Acquisitiveness are noted for building most ingenious and artistic structures for dwellings and for defense, such as dams and fortifications. These dwellings cannot be said to be built by *instinct*, as is claimed for the works of certain insects, but show great originality and adaptation of new ideas and plans to new and unforeseen circumstances, as, for example, the beaver's lodges and dams, of which the Rev. J. G. Wood remarks thus:—

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* Mysteries of the Head and Heart, J. Stanley Grimes, pp. 57, 58. Chicago

> The beaver lives in societies varying considerably in number and united together in the formation of works which may be considered as belonging to the profession of the engineer.*

Among other animals that exhibit the acquisitive-constructive phase of life, and whose mouth and teeth present an appearance similar to that seen in many human beings, I may mention the mouse, rat, lemming, mole, musk-rat, porcupine, urson, coendoo, capybara, hare, rabbit, jerboa, springhaas, chinchilla, long-eared squirrel, marmot, prairie-dog, and gopher. All of these animals are constructive, many of them most artistic, as, for example, the mole. They are also great *feeders*, with large Alimentiveness, and very Acquisitive,—the rat, for example, stealing and hoarding many things which he cannot use. Many of the class of birds termed "raptores," or rapacious birds, among which are the magpie, owl, vulture, eagle, condor, osprey, tailor-bird, rifle-bird, and pöe-bird, show their rapacious, constructive, and acquisitive traits by their hooked beaks, arched claws, and wide mouths, while the parrot is a fine sample of Constructiveness, Alimentiveness, and Acquisitiveness, for his gormandizing requires that he should lay claws and beak on everything eatable in his native haunts. His Constructiveness is of the highest order, for his linguistic powers extend to the acquirement of several languages or portions of them.

This exposition of signs in the animal leads us to infer that men built upon the broad and muscular plan are the most acquisitive and constructive. Men who can eat well and digest easily keep up that degree of strength and animal spirits necessary for the carrying forward of great commercial enterprises as well as large architectural projects. De Lesseps at eighty years of age, planning and executing the immense work of the Panama Canal, is a fine example of what good feeding powers will do toward the acquisition and exercise of great mental powers. He is a round man, made so by round muscles.

In different classes of persons we shall find distributed the various signs for Acquisitiveness. The commercial classes are distinguished generally by large noses, broad and high, and of an even thickness the whole length, as is seen in Elliot C. Cowdin, Matthew Vassar, James Harper, and Samuel Appleton, together with wide, predaceous jaws, or a large, high, hooked nose, such as is often seen in the countenance of the Hebrew merchant and banker. All successful commercialists are good feeders and have good digestion. Many of the Oriental commercialists, as the Turk, Persian, and Mongolian, exhibit the heavy, sleepy-looking eyelid in combination with other signs, such as the hooked nose, which looks as if ready to "hook into" the unsuspecting victim, as do the eagle, falcon, and hawk when descending upon their prey. All through Nature we are met with the most incontestable evidences that similarity of form denotes similarity of faculty; hence, wherever we observe in man or animal the broad and arched nose we shall find large digestive power giving strength and desire for overcoming. All carnivorous animals, those who spring upon and devour weaker creatures, are distinguished by wide jaws; thick, compact muscles; social and domestic natures, wide noses and nostrils (the nostrils and nose of the lion and tiger are very broad), and arched claws and paws.

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* Wood's New Illustrated History, Rev. J. G. Wood, p. 156.

Poets and literary characters usually exhibit Acquisitiveness by a fullness of the nose adjoining Constructiveness, yet artists and actors show the sign for this trait both in the eyelid and nose. Guido Reni's physiognomy shows both these signs very prominent. Benjamin Franklin's physiognomy discloses the signs for Acquisitiveness in the upper eyelid and nose, and in the general strength and well-nourished appearance of the body; the sign for strong stomach (width of the bridge of the nose) is well marked, while frugality and economy, for which he was noted, are indicated by the sign for Economy, below the chin, as in the "dewlap" noted in the sign for Economy. In the portraits of literary characters several signs for Acquisitiveness are often exhibited. Some of these signs show possession of the desire to acquire money and property; others signify a stronger love for the materials of literature; others still, the accumulation of ideas or other necessities of the profession. De Foe, author of "Robinson Crusoe," had a nose convex in its outlines and full at the sides, thus displaying two sorts of Acquisitiveness. In Halley, the astronomer, the sign in the nose is large. In William Penn, also in John Locke, and Bossuet, the orator, it is full. Blaise Pascal, the divine and orator, reveals three signs, viz., in the eyelid, convex nose, and side of the nose. Let the reader examine the portraits of Milton, Corneille, Rembrandt (who was noted for his avarice), Cromwell, Lord Chatham, Richard Wagner, Mdlle. Rachel, Wendell Phillips, W. H. Vanderbilt, Cyrus Field, Jay Gould, Perrier (French financier), and Henry Villard, and all who have gained fame, fortune, position, and learning. In all such he will find some of the signs for Acquisitiveness. The faces of all the most learned Hebrew divines and scholars exhibit one or more signs for this trait very decidedly. In them the well-known Acquisitiveness of their race is turned to the acquirement of knowledge, hence we must expect that such energy as this force sets in action will result in extraordinary acquirements of learning. The works of Josephus, the ancient historian, and of Spinoza, modern German littérateur, are evidences of the acquisitive power of the Hebrew race. One very decisive and characteristic sign of Acquisitiveness observed in the attitude of observing, thoughtful, and literary persons, such as naturalists and scientists, is the forward carriage of the head. This position facilitates observation, and is the unconscious and involuntary movement forward which enables them to *see* and *hear* whatever attracts their attention. So pronounced is this attitude in this class that the portraits of many of them have been taken in this position, showing that it has become habitual. Observe the pictures of Sir Joseph Banks and Captain Cook. This attitude is probably a combination of attention and Acquisitiveness, and signifies both. Dr. Cross has noticed this peculiarity and writes of it thus:—

> Bending forward of the neck indicates earnestness or keenness in *whatever pursuit*. Accordingly, in all those emotions and affections of which *attention* or concern forms an ingredient, the neck is bent forward. The earnestness represented by the neck bent forward is liable to degenerate into cunning and meanness [through excess of avarice, he should have added]. All truly great men who have acted distinguished parts, whether glorious or infamous, in the great drama of human life, have the neck with all the senses at its extremity stretched forward in all the eagerness of a hound in pursuit of its prey.*

It will be noticed that mental acquirement has some signs distinct from those which denote material acquisition merely. Now, all the signs for mental acquisition are in the eye and nose, and are accompanied by many diverse outlines of the head, while the signs for material acquisition are shown by a relatively broad, low head; wide, predaceous jaws; large mouth and large ears; broad nose, often lacking the development about the tip observable in the noses of poets and imaginative characters; while the lowest, meanest, and smallest manifestation of this faculty is found in petty bodily indications, such as fine wrinkles upon the face and hands; a stooping, bent posture; small, impoverished body; hands flexed, shriveled, pallid, and wrinkled; thin lips, etc. This latter class of signs is found most prominent in the *personnel* of those who are acquisitive on a *small scale*,—petty housewives, small dealers, misers, or those whose capacities for acquiring are not so great that they can expend money on a large scale, as this requires higher traits than they possess; for a man who expends large sums must have taste and judgment in art, science, or literature, or he must possess social and domestic faculties on a large scale, and thus love to put out money in these directions. The character of these petty savers is lacking either in the mental or emotional department; hence, they evince but little desire for sociality, domestic comforts, or the refinements of art, etc., and they are thus able to add half-pence to pence, and dispense with the comforts of life without a pang; the latter sort are most aptly described by Mr. J. Stanley Grimes, who speaks of them as follows:—

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* An Attempt to Establish Physiognomy on Scientific Principles, John Cross, M.D., p. 143. 1817.

> In some extreme cases of *voluntary littleness* the character is strongly marked in the personal appearance. Alimentiveness is made to suffer; the lean, gaunt body is contracted with threadbare garments which are too small in all directions; the shriveled features sharpened to a point; the upper lip drawn toward the nose exposes the incisor teeth; the fingers crooked to resemble claws; the body bent forward, and the whole figure and expression resembling a rat in a sitting posture.*

Many of the great accumulators of the world are large, broad, social, and amative men, full of life, with love of music and society, while nearly, if not all, of the petty accumulators and misers are small, shriveled, wrinkled specimens of humanity, and exercise their domestic sentiments in a very restricted manner where they use them at all; they avoid society for the reason that they cannot *warm* toward any one, for their shriveled, pinched, and parched lips tell us that the *juices* of the body are very deficient, and that the glands are lacking in functional activity. So surely does each feature, wrinkle, and attitude, as well as the walk and hand, reveal the internal condition of the physiology of the mind. All appearances in connection with the human body form a criteria of physiological truth, and Nature is prodigal of the signs, signals, and ethnic characters suited to the scansorial capabilities of all grades and shades of minds, from the infant up to the genius.

The geometric outline of the body and form of each feature and limb reveals the entire man. It should be our first duty to understand thoroughly these signs which God has set before us in every department of Nature in the most affluent manner. Let the reader take, for example, the lower lip of the miser, dry, white, parched, thin, and wrinkled, and compare it with the full, moist, red, juicy lip of the normal or generous person, and he will soon be convinced that the comparison of resemblances and diversities is an excellent method for the study of physiognomy.

Tall, narrow-headed people have relatively less Acquisition than the short, round, and squat. The latter are given up to the pursuit of *material things*, while the former are more aspiring and lead in moral reform, sympathy, benevolence, etc. There is a great resemblance between the beasts of prey, such as the tiger and panther, and the forms of many of the great financiers,—Jim Fiske, of Erie Railroad notoriety, for example. He was short and round, with wide jaws, large mouth; broad, low forehead; heavy, drooping upper eyelid; broad through the head above the ears, and had the expression of a bull-dog. The Rothschilds, the celebrated Hebrew bankers of Europe, are rather short and broad, with capacious abdomens and wide heads; low, full foreheads; large and bright eyes, and short, muscular limbs and hands. This build always indicates predaceous energy. All successful merchants have a large share of muscle, and the chief characteristic of muscle in both man and animal is to grasp and hold on. This grasping propensity shows in the human family by love of trade in which one profits by the industry of another without *himself producing anything*, *preying alike upon the necessities of producer and consumer*, and this is the basis of the present commercial system. It is precisely what the bird of prey does when he swoops down upon the toiling king-fisher and takes from him by force the fish he has wrested from the waves by the exercise of his strength and talents. The present commercial system is animal-like and based on dishonesty, oppression, and robbery. It is to be hoped that the "enlightened self-interest" of the people coupled with high ideas of justice will sweep away this system of injustice, and regulate the *exchange of products* in such manner as will insure the right reward to the producer and a just price for the consumer. The present revolt of the laboring classes tends in this direction, and doubtless a radical change will blot this and kindred evils out of existence.

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* Mysteries of the Head and Heart, J. Stanley Grimes, p. 60. Chicago.

Acquisitiveness is a most useful faculty when not excessive or perverted. The Oriental races—the Hindoo, the Arab, the Turk, the Hebrew, and Mongolian—possess a large share of Acquisitiveness, and in them the muscular system is in the ascendency, as it is in all the beasts and birds of prey. They are fond of trading and *gaming*, *speculating*, and lotteries. Many of them possess most avaricious dispositions, and prefer to gain at the expense of others' toil.

Many eminent men exhibit the signs for Acquisitiveness. George Washington's eye and nose are both evidences of the presence of this trait, but in him it was *balanced* by Reason, Conscience, and Benevolence; hence it was exhibited in his character by a wise and *prudent* administration of property and resources. Benjamin Franklin's "Poor Richard's Maxims" relating to economy are known the world over, and in his case Acquisitiveness was balanced by other high traits,—Reason and Benevolence.

Many of the most eminent artists, poets, painters, singers, and writers have been noted for large Acquisitiveness,—not only for a desire to acquire fame and popularity, but for a desire to earn and retain money and property. The celebrated French actress, Mdlle. Rachel, in her last illness, it is said, would entertain herself for hours by tossing up oranges and gold pieces for toys, so great was her pleasure in handling gold. Others of the poetic brotherhood have shown themselves quite impractical in money matters; yet, as a rule, all of the artistic classes possess a large degree of Acquisitiveness. Whether they make good use of their gains or invest them judiciously depends upon other traits in combination. Jenny Lind and Patti have amassed fortunes and invested them with prudence, while many eminent poets have used their means, either inherited or earned, with care and forethought,—Tennyson, for example,—and the sign for Acquisitiveness is quite large in his nose.

Where Approbativeness is large in combination, fame, reputation, and adulation will be most desired. Those with small Caution, large Acquisitiveness, and small Conscientiousness will pursue dishonest plans and exhibit a love of gaming, betting, and lotteries; with large Friendship, Acquisition, Benevolence, and small Cautiousness they will do a great deal for friends and often go beyond their depths, and by signing notes for friends become bankrupt and impoverished; with a large mental system and Ideality they will accumulate books, objects of art, etc; with large Veneration added they will collect old coins, ancient books, and antiquities of all sorts; with large domestic traits and small social faculties they will do and expend more for the family and very little for society, and with large Secretiveness and Caution in combination they will manifest great prudence, care, and foresight in business.

Acquisitiveness is the distinguishing trait of development. Children and undeveloped races seldom lay up anything for future use. Many animals are more prudent and thoughtful for the future than many men among the civilized races, for the squirrel, bee, beaver, rat, and dog lay by supplies for the sustentation of themselves and their offspring, thus teaching us that we are not entirely superior to the lowly beasts and insects, and that we share with them the development of all mental traits, differing in degree but not in kind. The more comparisons we institute among all departments of animate nature, the more evidence we shall accumulate of the fact that one mind, one life, and one spirit animate the entire circle of what we understand as existence.

CONSTRUCTIVENESS.

Definition.—The faculty which gives the artist, mechanic, and inventor the capacity for building, modeling, drawing, running machinery, and also bestows originality, skill, deftness, knack, and versatility, and gives flexibility to the muscular system. Large Constructiveness gives a sense of weight and an innate perception of the laws and operation of natural mechanical forces; assists the musician, sculptor, painter, athlete, chess-player, actor, novelist, and scientist.

An *excess*, when not balanced by reason and the practical faculties, leads to chimerical and impractical inventions,—"motors" that never move,—and to useless and foolish mechanical contrivances.

A *deficiency* is shown by singular awkwardness in the handling of tools and in all constructive work. With Constructiveness small, the character lacks originality and spontaneity, and shows very little ability to write well, draw, model, form, outline, operate machinery, or to learn readily the mechanism of the keyboard of the piano, or other musical instrument, or any mechanical principles; its absence makes one very unskillful in playing ball, in marksmanship, or in athletics.

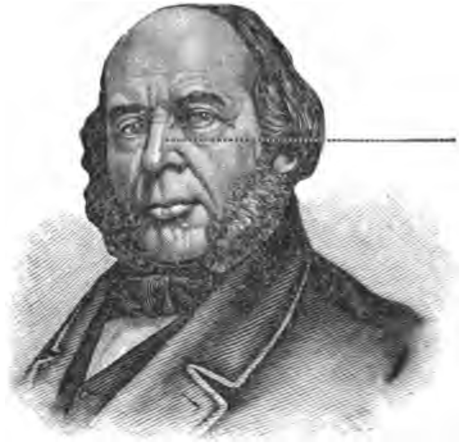

FIG. 79.—JOHN ERICSSON. (EMINENT MECHANICIAN.)

Born in Sweden, 1803. Principal facial sign, Constructiveness, shown by fullness of the sides of the nose, general form and size of the nose, size and shape of the forehead, and rounding out of the sides of the forehead. The law of the straight line, curve, and cube governs this countenance. The vegetative system is here well represented. Conscientiousness, Firmness, Love of Home, Patriotism, Friendship, Economy, Love of Young, Sanativeness, and Benevolence are all well defined. Amativeness is normal, while Self-esteem is most uncommonly large, showing the thorough independence and dignity of the man. The nose is broad in the back the entire length, and short relative to the length of the face, thus showing the dominance of muscular structure. The signs for Sublimity, Acquisitiveness, Constructiveness, Veneration, Executiveness, and Self-will are exceedingly well developed. The signs for Form, Size, Observation, Weight, Locality, and Calculation are very large, and show the mechanical capacities of this mind. In the upper third of the face the signs for Order, Time, Reason, and Intuition are immense. The quality is of the highest order.

Facial and Bodily Signs.—The sign for Constructiveness in the nose is shown by fullness of that feature just above Acquisitiveness, causing it to be well rounded out at the sides or alæ, just below the "bridge." Noses having an indentation at this part betoken a lack of artistic mechanism. Many other signs there are for this faculty; as it is a muscular trait, signs of its presence will be found all over the body,—in the head and limbs, in the walk, voice, and gesture. Its basis being the muscular system, the rounded and curved individual is its best representative. Constructiveness may be known by a rounding out of the temples, erroneously described by phrenology as an "organ" at this point, but really caused by *round bones and round muscles*,—the combination that gives the highest capacity for construction. Other and secondary signs are seen in the large, full eyes; arched eyebrows, round ears, oval face, round head; tapering, flexible fingers; small, rounded wrists and joints, with the bones relatively small and well covered by muscle; easy, graceful walk; beautiful, curved gestures; mellow, sonorous voice and playful disposition; short and thick feet, and arched instep.

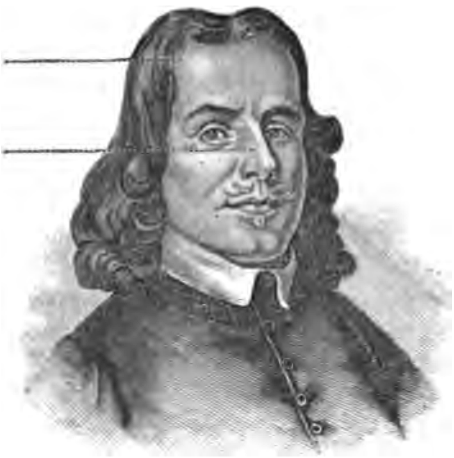

FIG. 80.—JOHN BUNYAN. (TINKER, PREACHER, AUTHOR.)

Principal facial sign, Constructiveness, shown by fullness of the sides of the nose, form of the nose, and rounding out of the sides of the forehead. The law of the straight line and curve governs this face. This subject worked at a mechanical trade in early life, yet could neither read nor write until he arrived at manhood. This nose shows more literary than mechanical constructiveness. The domestic sentiments are well represented. Love of the beautiful in the opposite sex is shown by the dimpled chin, while Firmness, Conscientiousness, Patriotism, Benevolence, Amativeness, Love of Young, Mirthfulness, Modesty, Approbativeness, Friendship, and Color are most apparent. In the nose the signs for Mental Imitation, Human Nature, Hope, Analysis, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are conspicuous. Form, Size, Prescience, Credenciveness, Calculation, Order, Locality, Memory of Events, and Intuition are large. The extraordinary face of an extraordinary man.

DESCRIPTION OF CONSTRUCTIVENESS. — The faculty for artistic construction is of the highest order only where the muscular system predominates over the bony system, together with a brain system of fine quality. Mechanical skill is of the highest order only where the bony system is in the ascendency. For the purposes of *art* the flexibility of the muscles must be perfect, and, as bones are not flexible, we find in all the artistic classes the dominance of the muscular system in conjunction with a suitable brain and nervous system. The great masters of art, the most eminent actors, poets, orators, and writers, must possess, of course, more highly-specialized brains than the lower classes of muscular people. The mere athletes, dancers, singers, musicians, oarsmen, riflemen, and other professional sportsmen do not require so well-developed a brain nor so sensitive a nervous system as the higher classes of artists, although many of them are men of intelligence. Many singers and instrumental musicians have a fine and sensitive nervous system, yet, as a rule, not very high intellectual gifts, their work requiring mainly only the use of powers drawn from the muscular system. But to whichever class these several varieties of artists belong, the nose will be rounded at Constructiveness; the sides of the head will round out, the fingers will be tapering and flexible, and the entire organism constructed on the plan that best favors gracefulness, ease of motion, imitation, imagination, enthusiasm, sociality, sportiveness, and vocal capacity, and which, in short, is adapted to the production of *curved motions*. Upon due examination and analysis, we shall find that the foundation of every art is the curve, whether it be painting, musical instrumentation, singing, constructing the musical cadence of poetry, or the use of the voice in oratory, elocution, or singing (for vocal sounds cause *curved waves* of the atmosphere to impinge upon the ear, which is also constructed upon the circular plan, both without and within); or the curved motion of gestures, or the graceful poses and attitudes of the actor and orator. Whatever the nature of the art, the ability to produce curves must come from the flexibility of the muscular system, for they cannot be produced by *any other system*. The finest intellect in the world, if destitute of a suitable muscular development, could not sing an air, play a sonata, paint a picture, deliver an oration, nor delineate a play properly. The brain of the person whose muscles dominate the bones, it is logical to infer, is composed of different proportions of brain-elements from those of the brain of one whose osseous system is in the ascendency; for, inasmuch as his entire structure—his bones as well as his muscles—is more flexible, it follows that there must be more *animal* ingredients than mineral in his entire organism. Every portion of his frame proves this; even the hair of the muscular individual is softer, more flexible, and more *easily* curled than that of a bony person. Curly or wavy hair is rarely or never seen on the head of an osseous individual, his hair being, as a rule, very straight and difficult to wave or curl, while the hair and beards of muscular people incline to curl and wave, and are singularly lustrous, proving the presence of animal, oily secretion, while the hair of the osseous subject is dryer and not so glossy. The finger-nails, too, of the constructive individual are thinner and more pliable, while everything connected with this class of persons points to the greater development of gelatinous material rather than of the mineral. The analysis of muscle shows a large proportion of gelatin,—animal substance,—while a chemical analysis of bone discloses a large proportion of the phosphates of lime,—a mineral matter which gives to the bones as well as to the tissues their *solidity* and consistency.

Now, small, round bones and large, round muscles (the combination most frequently observed in the higher classes of artists) would naturally possess more flexibility than large, square bones and flat muscles,—the combination which characterizes those who possess relatively less original artistic constructive skill; hence it is that the bones of the skull of this class are more rounding and the joints of the muscular individual more flexible than those of the purely osseous subject. The rounding out of the sides of the head, which our phrenological friends would have us believe is caused by brain development, termed by them an "organ," is, I think, conclusively proved to be nothing more than the bulge produced by the combination of *round bones* and *round muscles.*

There is a long physiological history attached to every mental faculty, and, at the risk of being considered dry and prolix, I introduce in this chapter a short physiological and anatomical description of the base of each separate mental manifestation, deeming it only just to my readers and to the science that this should be intelligently understood. The "Basic Principles of Form" are elaborated in the chapter of that name, yet it is impossible to describe Constructiveness without trenching considerably upon the subject matter of that chapter. This, I think, will not be a disadvantage to the student, as these principles cannot be injured by repetition.

The construction and operation of the muscular system have been fully discussed elsewhere, yet it is apropos to the present topic that a short description of the mechanical powers inherent in the muscular system should be given. It includes in its action the arch, the pulley, the wedge, the several lever powers, the ball-and-socket joint, the hinge, and valve; joints with a lateral motion, also with a gliding motion, mixed joints, together with the principles of hydrostatics, gravity, capillary attraction, magnetism, optics, pneumatics, acoustics, chemical action, and mechanical action. This exposition of the inherent powers of the muscular system explains *why* those who possess a fine endowment of muscles are enabled to construct, form, and fashion whatever has for its leading principles these several powers. The human body is the highest expression of *architectural* skill,—the most perfectly constructed,—and in its operation combines nearly all of the principles of natural forces, and these are nearly all manifested by means of bones and muscles; and, although we cannot possibly comprehend a tithe of the complex operations of the systems within the body, even with the aid of the microscope, we yet know that it is the perfection of harmony, and the *type* of all *creative, constructive energy.*

Before passing on to the consideration of the mental aspects of Constructiveness, I may mention that round-built, muscular races of men and animals are more prolific, more creative *physically*, than the square-built, bony men and animals. To those who have imbibed the notion that the brain is all powerful, and that it is the organ of the mind *exclusively*,—the organ by which men are able to carry forward artistic works of all kinds,—I would say that every different formation of man has undoubtedly a different construction of brain, not only as regards its form or shape, but in regard to its *component particles and proportions.* Most great artists have such a combination of brain and muscle as to lead us to say of them that they are "brain-and-muscle men." Other lower types of artists, such as those who are athletes merely, without sufficient brain development in combination with their muscular system to enable them to plan fortifications, pictures, statuary, etc., may be considered as "muscular men" solely; or, if the thoracic system is equal in development, as it often is in oarsmen, ball-players, gymnasts, etc., they may be denominated "muscle-and-lung men," for this method of terminology gives in a sentence the *dominating* forces of the mind of the individual thus characterized; and after one has become conversant with the leading traits which inhere in the different functions, he will be able to say what are the mental and physical capacities of any given subject without even seeing the person. By having a description of the dominant functions a physiognomist would be able to read most of the character. To say to one who has read this work attentively that a certain person is a "brain-and-bone man," or a "brain-and-muscle man," or a "vegetative man," or of a purely "muscular type," is to unfold directly a great share of the character of the person thus designated. Beginners, in investigating the differences observed in the several organ systems of men and animals, will find that their powers of observation and comparison will be taxed to the uttermost in order to render a true and correct judgment. Comparative anatomy is a science which will aid us in this most important branch of physiognomy. By it the student will learn to distinguish the difference between the vegetative, the muscular, the bony, and the thoracic systems of men and animals. Not only will he observe these differences, but he will soon learn to estimate the degree of development of each of these systems found in combination in each subject. All these differences must be comprehended and the *relativity* of these functions understood almost at a glance.

All persons in whom the muscular system predominates can sing, play upon musical instruments, dance, write, model, draw, and paint better than those whose bones are large and square. There are many persons of fine intellectual endowments and acquirements who cannot be taught to practice successfully any mechanical or artistic profession, because the brain system dominates and the muscles and bones are not sufficiently developed to assist these mechanical efforts. This fact proves that each combination of functions has a brain which works in harmony with its physiological and anatomical structure. The mechanical body and hand are accompanied by a square-built mechanical brain, and the body, hands, and feet of an artist are provided with the rounding head of an artist. These harmoniously constructive principles inhere in every department of Nature's works.

In the mineral kingdom this principle is most wonderfully and beautifully exemplified in the various crystallizations of gems and stones, and every different mineral or gem always assumes a certain and definite shape and color by which it is known from all other formations. In the vegetable kingdom, not a blade of grass, or leaf, or blossom, but testifies to the creative and constructive power of the great Architect of all. In the insect world we can but admire the constructive energy of the spider, bee, and ant. These creatures are all endowed with a muscular system which *dominates* all the other functions in their organism, and they exhibit precisely the same traits which characterize human beings whose muscular systems are in the ascendency. They are ingenious, constructive, mathematical, and geometrical, as witness the hexagonal cell of the ant, the geometrically-arranged web of the spider, and the fine adaptation of the hinge-principle in the door of the dwellings of certain species; while the architectural skill displayed by the ant is most wonderful, and is not, as many believe, altogether a matter of instinct, but is original, ingenious, and inventive, adapting means to new and unforeseen circumstances. The ant is in disposition like muscular men, being prolific, social, domestic, graceful, strong, often cruel or unfeeling, and fond of *domination*, as exhibited in his slave-holding customs.

The same constructive talent is shown by birds, some of which build the most ingeniously-contrived nests. Among animals, constructive æsthetic talent is disclosed by those species that exhibit relatively the most muscle. The mole and beaver are not so large as the dog and horse, but are more muscular relatively; that is to say, their muscular system is in excess of the bony. The mole constructs a beautiful little home, built with five circular galleries, with ingeniously-contrived modes of ingress and egress.

All animals that burrow, build, and construct have relatively more muscle than bone. The movements of these creatures are graceful, and their forms rounded; the paws are soft, flexible, round, and rapid in movement,—quite different from the bony limbs and feet of the dog and horse. The latter are more moral and intelligent than *any muscular* animal, for the bony system is a higher and more *substantial* system than the muscular. Mechanics and scientists, in whom the bone and brain systems are supreme, are more moral than artists, as a class. Where muscles predominate we find the emotions, particularly the *amative* propensity, excessive, and this does not tend to the same degree of *moral control* that is exhibited by the dominance of the bony system. I have shown that the round form is the artistic build; it is therefore the most suitable formation for artistic effort; it also denotes generative capacity, and love, ardor, enthusiasm, imagination, credenciveness, imitation, and constructiveness, which in combination, and in excess, are opposed to that coolness and self-control which the *highest morality* requires.

One of the most interesting as well as the most difficult studies of physiognomy is found in the endeavor to analyze the *combinations* of systems of functions observed in each individual, and especially in *gifted* persons, for here we find the best field for discovery, analysis, and verification. The physiognomy of a perfected character offers *more* to the mind, and presents such arrangement and development of facial features as to delight the physiognomist. When I meet with a countenance which reveals to me the character of a highly-gifted person, whether in art, science, or domestic traits, I think I experience all the gratification which an artist would feel were he suddenly to come upon one of the works of the old masters in some unexpected nook or garret. An expressive face speaks to the beholder in most unmistakable language. After one has acquired a knowledge of scientific physiognomy he can never mistake a knave for an honest man, nor a common-faced person for a genius. Neither will talent and goodness pass him unnoticed. And the face which in his days of physiognomic ignorance he might have considered as plain or homely may, under the full blaze of physiognomical law, reveal traits of beauty and power. Art-standards cannot be relied upon to express scientific truths. The faces of many of the most highly gifted persons do not exhibit the sort of expressions that art would term "beautiful." Only the height of science and an application of her laws can unfold to us the true, inner, and hidden meaning of every thing in Nature. Form and function, and function and faculty, are synonymous and convertible terms. Given a certain form, and the physiognomist can describe the physical functions and mental faculties which belong to it, and which are always associated with it.

I designate the muscular system the "artistic" system, in contradistinction to the "mechanical" system, which is best exhibited where the bones are slightly in excess of the muscles. The fact is, that art and mechanism are both influenced by some of the same laws and principles, but artistic construction depends mainly upon the flexibility of muscle and the curves produced by muscular movement, together with the *sort of pressure or touch* imparted by its action. The *touch* of the fingers of the finely-organized muscular person upon the keys of the piano, upon the bow of the violin, or upon other stringed or wind instruments, is far more mellow, rich, melting, and harmonious than that produced by the large, square-boned fingers of the mechanic or scientist. The *voices* of these two classes exhibit just the same differences; the more muscle, the more mellifluous, sweet, and soothing the voice, and if to this is added a good degree of the vegetative system, as seen in the portraits of Parepa Rosa, for example, the voice will give forth a quality of sympathy most touching. The peculiarity of the curving nature of *muscle* is also influential in the rhythmic lines of the poet and the waves of sound produced by the voice in oratory and singing; also in the motions caused by the gestures of the actors. Moreover, many artists work with tools and machinery of a *circular form*, and depend upon mechanism of this conformation to produce like effects in external works. Now, the mechanic, having the bones slightly in excess of the muscles, presents a more angular appearance, and externally produces work which is characterized by *angles*, as exhibited in house, furniture, buildings, and all mechanical objects presenting plane surfaces, angles, and cuboid forms. It is true that the mechanical principles inherent in the human organism are connected mainly with the muscular and osseous systems; yet a preponderance of muscle over bone makes a man an artist, while different proportions of these two systems giving the supremacy to the bone create mechanical ability.

The constructiveness which accompanies an excess of muscle gives capacity for setting up and running machinery, talent for playing and comprehending the mechanism of the piano, violin, harp, organ, etc; also, for becoming expert and dexterous in the use of the sewing-machine or other running machinery. Where there is a good brain development in combination with the muscular system, the mechanical principles will show in the construction of ingenious and complicated stories, characterized by skill in the plot, as witnessed in the fictions of Shakespeare, Dickens, and Wilkie

Collins, and in the plays of Tom Taylor and Dion Boucicault. Thus these brain-and-muscle men are artists *with the pen.* This class of minds comprehend *mental constructiveness*, and practice it externally by ingenious writings. Henry Ward Beecher and other good orators and divines of the artistic build show the dominance of this system by the fine literary construction of their speeches and sermons.

A slight difference in the *proportions* of these two systems, and a slight difference of degree in the *brain development*, gives us an organ-player like the celebrated Bowman, of Boston, or a composer like Handel, while other differences of degree produce a Stephenson, a Watt, a Fulton, or an Edison. These differences are easily understood by the observing physiognomist, and each individual is assigned his own proper place in art or mechanism upon a close scrutiny of the face, form, hand, etc; for I hold that the hand is a *mental feature*, and must be examined in order to give the most complete reading of character. The human hand and the human nose are more purely mental than animal features, for the reason that no animal has either a hand or nose at all comparable to the human hand and nose. They are both found in a state of greatest perfection with the most perfected persons and races, hence entirely distinct from those of the savage, idiot, infant, and undeveloped people generally. The hand performs the nicest and most skillful work that the mind can invent, and without the deft, flexible, and perfect hand the fine mechanical and artistic plans of the most ingenious mind would end in abstractions, and man would be entirely unable, except by speech, to prove his superiority to the brute creation.

When the faculties of Size and Form are treated in the pages which follow, the subject of *mechanical principles* in their relation to inherited forms will be explained. Although Form is the basis of art as well as of mechanism, it is differently used, and different in its applications in each case, as has been shown.

The combination of Constructiveness with Language and Imagination gives poetic talent; with large Language, Love of Young, Ideality, Form and Size, Self-esteem, Firmness, Sublimity, Locality, and Calculation, will give constructive talent on a large scale, such as engineering, building fortifications, bridges, aqueducts, etc. The face of John A. Roebling, engineer and builder of the Brooklyn bridge, New York, is an excellent illustration of this combination of artistic-mechanical talent.

I term the group about the point of the nose the "artistic," using it in its broadest and most comprehensive sense, including in this division the signs for Literature, Art, Artistic Mechanism, and some of the faculties used in the artistic department of Science, as in Analysis and Mental Imitation, Constructiveness, etc.

VENERATION.

Definition.—Respect for all persons, places, and principles entitled to respect; regard for the laws of Nature; submission; religiously cultivated, it leads to devotion to God, to prayer, praise, and religious observances; when combined with literary faculties it creates a taste and respect for ancient history and antiquities; it gives a tender regard for the aged and deference to long-established customs, forms of government, etc.; those with large Veneration readily submit to law, order, customs, proprieties, and offer reverent and respectful deference to the wishes and opinions of others; it assists self-control, and forms the basis of the taste for collecting old coins, ancient literary and art relics, and imparts a desire for visiting monuments, pyramids, ancient lands, and races.

An *excess* leads to religious bigotry and fanaticism and immoderate indulgence in religious rites, such as fasting and penance, and tends to morbid devotion and religious mania.

A *deficiency* makes one impudent, irreverent, disrespectful, and defiant; creates contempt for law, custom, propriety, and old age, with slight power for self-control and inability to control others; makes the bully and creates low character, and leads to disregard of sacred subjects.

Facial and Bodily Signs.—Height of the nasal bones at the part just below the bridge is the most decided sign for Veneration. Width combined with height discloses the possession of the highest degree of Veneration. High, thin noses show less of Veneration than those that are broad as well as high. Secondary signs are found wherever the bony system is dominant, as shown in the squareness of the face, the bones of the fingers, and large joints generally. Veneration is exhibited by respectful demeanor and deferential manner in the presence of elders or officials. It bows the head in sacred edifices and in listening to excellent discourse.

A short, round, muscular nose, depressed at the centre and slightly "pugged," is the perfect type of an impudent, saucy, and disrespectful character. Large, projecting, staring, convex eyes show the absence of Veneration.

Description of Veneration.—In proceeding to the consideration of the group of signs which cluster about the ridge of the upper part of the nose, we find that a great advance in strength of character is made where this portion of the physiognomy is well developed. The principal sign for Veneration is caused by the development of the nasal bones. Its location, being between the executive faculties and the æsthetic and literary, is most suggestive. The philosophy of its action offers additional proof of its osseous origin. Add to this the vast amount of evidence derived from the comparison of low-nosed people with those having this sign large, and we shall complete a very extended chain of evidence, most conclusive and utterly incontrovertible by metaphysician or phrenologian.

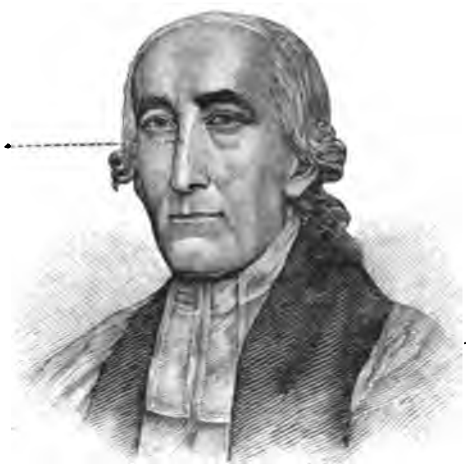

FIG. 81.—RT. REV. BENJAMIN MOORE, D.D. (AUTHOR, BISHOP OF THE PROTESTANT EPISCOPAL CHURCH OF NEW YORK.)

Born in New York, 1748. Conspicuous facial sign, Veneration. The law of the straight line and square governs this face. The signs of the domestic and moral traits are very pronounced. Conscientiousness, Firmness, Patriotism, Benevolence, Love of Home, Love of Young, Self-esteem, and Modesty are large, Amativeness and Friendship normal, while the mental and executive powers are uncommonly developed in the nose. Mental Imitation, Analysis, Hope, Sublimity, Constructiveness, Veneration, Executiveness, and Self-will are all very conspicuous. Form, Size, Language, Memory of Events, and Credenciveness are most apparent. Altogether a pure and high-minded and intellectual character.

Where the bony system dominates the bones are inclined to be long and often square, the joints large, and the head will present a more angular appearance than where the muscular system prevails. The head will also stand *high* above the ears, at the place where phrenology locates the "organ of Veneration." This height is caused by the supremacy of the osseous system, which tends to *height*, *length*, and *squareness*, and not to roundness. Veneration is the attribute of mechanical and scientific characters rather than of the artistic classes; hence, the head in these classes is higher in proportion to its size and more angular in form, while the nasal bones are more prominent and the muscles of the nose smaller relatively,—all of which goes to prove that the supremacy of the bony system produces the most Veneration. An examination of those animals in which are found the most submissive, deferential, and respectful traits of character shows that the osseous system is in the ascendency, and proves that the bony races of animals are more submissive to law and more respectful than those in which the muscular system prevails. Compare, for example, the horse, the dog, and the camel, with their angular, homely, bony, mechanical construction of form, with the sleek, little muscular ape, or with the larger tiger, panther, and lion, and you will be able to prove the presence of a large degree of Veneration in the former and *none whatever* in the latter. In one class there is beauty of form and movement, with irreverence, defiance, and disrespect, and in the other less beauty, according to recognized ideals, but more respect and submission; hence more *capacity* for *instruction* and *progress*, both in knowledge and structure, as witness the high grade of skill, speed, and intellectual attainments manifested by race-horses, hunting and trick dogs, trained camels, and elephants. The noses of the bony animals are relatively long and high as compared to the noses of the muscular creatures. Compare, for example, the noses of all the carnivorous classes, including the panther, the tiger, the jaguar, the leopard, and the smaller carnivora, with the horse, the dog, the camel, the deer, the gazelle, the springbok, the sheep, and the reindeer, and it will be observed that the noses of the former are relatively shorter and more depressed than those of the latter. The eyes, too, of the carnivora are larger, more prominent, bolder, and more defiant in expression than those of the domestic and herbivorous classes. Veneration in the animal kingdom is shown by recognition of man as a superior being, in teachableness and submission to man's laws, rules, and habits; also, by consideration and respect for the nature and rights of their own class of beings.

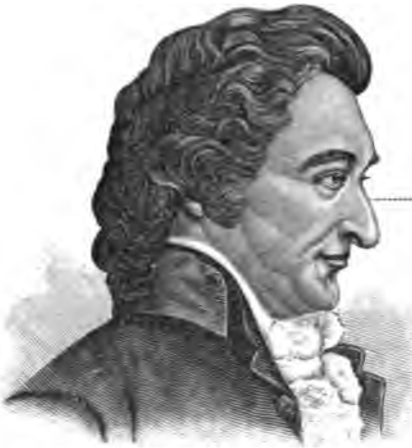

FIG. 82.—THOMAS PAINE. (MECHANIC, AUTHOR, PATRIOT, STATESMAN, PHILANTHROPIST.)

Born in England, 1737. Conspicuous facial sign, Veneration. The law of the straight line, square, and curve governs this face. This noble countenance is an excellent illustration of the active and humane mind which Thomas Paine exhibited in his life-works. The sign for the domestic traits are manifestly large. Conscience, Firmness, Economy, Patriotism, Benevolence, Friendship, and Self-esteem are very conspicuous. In the nose the signs for Human Nature, Mental Imitation, Veneration, and Executiveness, are very prominent. Self-will is only average. Language is excellent. Observation, Calculation, Reason, Memory of Events, and Intuition are pre-eminent. History furnishes few characters as unselfish and as broadly benevolent as Thomas Paine. In religion he would now be styled a conservative Unitarian, for he wrote "I believe in one God and no more." As Americans we are greatly indebted to him for his assistance in founding the Republic. Congress justly rewarded him for his magnificent services by heaping honors upon him while alive.

In analyzing the location and nature of Veneration in the human character we cannot fail to be impressed with its position in the physiognomy, and this will lead us to examine with interest its philosophy and use in the human economy. The faculty of Veneration belongs to the most perfected races, as its principal sign shows. What passes for Veneration in undeveloped races is not such at all, for they are incapable of so elevated a feeling. Their religious beliefs are the outcome of fear and Credenciveness, the latter trait belonging to the muscular system, and exhibited principally by the muscular races, as evidenced by the arched eyebrows and wide-open eyes of the "believer" in every monstrous and fantastic theory which passes for religion among different races. Credenciveness is the faculty which breeds wonder, marvelousness, and superstition, and even in civilized persons, in excess, leads to gross superstition, as we shall find later, when we come to consider its nature.

Veneration, as the description shows, has a wide scope, and enables different persons to exhibit it in varying degrees and in very diverse ways. It leads one to listen respectfully to ideas and principles expounded, and accords respect according to the merit each possesses. It leads another to submit by self-control to authority and governmental regulations. It causes another to be tender to the aged and considerate to his associates. It is large in nearly all eminent divines and commanders. If it is a sign of submission you will naturally ask why it is a marked trait in the character of commanders. The *principle* of command as well as of obedience is founded in the *comprehension of law*, and he who can best obey can best command, for command implies *self-restraint*, and this is the very basis of ability to control others. Scooped-nosed persons are unable to control themselves and to behave with strict propriety. They must, therefore, be *compelled* by the enforcement of laws and rules to behave decorously, and penalties should be imposed until experience has taught them to *fear* the consequences. Children whose noses at the centre *remain permanently depressed* are saucy and impudent, and need the restraining power of discipline. I once knew such a child, who at three years of age was a terror to the neighborhood; he was disrespectful to his parents, grandparents, and friends, often slapping them and showing an utter disregard for the rights and opinions of his superiors. The mother, an exceedingly lovely and intelligent lady, had conceived the romantic idea that children should and could be brought up on the "love principle," as she termed it. There are doubtless a few children who can be thus raised, but the majority of human beings must be so trained as to develop *every faculty* of mind, and if they possess much vigor or force of character will need discipline and training. This must be done, first, by playing upon one faculty and then upon another, until *every trait* is touched in turn and molded by the creative skill of the mother. The boy in question at last became so unruly, even at this tender age, that his conduct was insupportable. His parents applied to me for advice and I soon convinced them that he was not the sort of child that could be brought up on love alone; that such a course with such a nature produced contempt, and that irreverent characters respected law and force above all things. I advised them to commence a judicious course of discipline and dismiss their sentimental and impractical notions in regard to training children, inasmuch as they had proved the worthlessness of their theory after a fair trial at the most susceptible age. This they did, and at seven years of age, the last time I saw the boy, he was gentle in his manner, deferential to his elders, and every way an excellent child. In his case love alone would have ruined him, and probably would have led him to the penitentiary; yet he was conscientious, truthful, and very intelligent, but the lack of Veneration if not remedied would have neutralized all his other good qualities.

Adults who possess a "scooped" or pug nose, or even a short nose, are *unconsciously impertinent*, and make rude, blunt, and impudent remarks *without intending* to hurt the feelings of others. Parents who have children with this form of nose should take especial pains to make them polite and deferential. Indeed, they should go to the extreme in such matters in order to *balance up* this deficiency.

All infants and young children exhibit a nose more or less depressed at the centre, but if it is going to develop upon the ridge it will begin quite early to rise and the bones to harden. But where this depression remains after three or four years of age and the character shows out in impudence and defiance, a wise and rational discipline alone will correct it. Reasoning with such as possess a fair share of reflection is an excellent way. Appeals to the *affections* is another good method to pursue with those who are emotional. But punishment must be inflicted and force used when all else fails.

There is no more useful trait in the mind when rightly balanced than Veneration, for it is the basis of good government, law, order, propriety, politeness, and deference for those in authority, and for the opinions of those who are experienced. It leads to the recognition of superior excellence in others, and causes the young to defer to parents, teachers, and to imitate great characters. It is the foundation of religious worship; yet many men with large Veneration are devoid of belief in sectarian creeds. Voltaire was such a one. The sign for Veneration in his nose was very large. George Combe says of him that

> Voltaire's veneration was manifested in his sycophancy to kings and persons of high rank; also in his sense of *natural religion*. He was called

in his own age and country a fanatic for erecting a church at Ferney, which stands to this day, with the following inscription upon it: "Erected to God by Voltaire."*

There are many excellent characters who, like Voltaire, possess a large share of *natural religion*,—that is to say, who are devout in their pursuit of what is moral, and with a reverence for the truths of Nature, but not for man-made creeds. I have known many persons of excellent character, with large Veneration, who did not attend church nor respect the opinions of pope, bishop, or priest, yet in their lives were correct and moral, good citizens and parents. Some of them exhibited the possession of the loftiest traits of character, and lived up to very exalted standards.

The uses of Veneration are manifold. It is essential that the teacher, preacher, foreman, boss, superintendent, governor, commander, and civil officer should possess a normal degree of this elevated trait. Unbalanced and in excess it creates bigots and fanatics, causes undue respect for kings and conformity to conservative governments, traditions, and ancient observances, and leads to a slavish adoration of a Supreme Being. Such people are lacking in reflection, else they would know that God does not desire to enslave his children, but rather wishes them to be freemen—made such by knowledge of His laws, which alone can free us from error and vice. Veneration is not, as some imagine, a slavish adoration of a deity or of a plurality of deities. That is a *perversion* of the true use of this noble faculty, or rather its use without reason. Veneration should always be moderated by reason or subordinated to it, for without it it degenerates into many gross errors and superstitions. Lecky, in his "History of European Morals," says:—

> Reverence is one of those feelings which in utilitarian systems would occupy at best a very ambiguous position, for it is extremely questionable whether the great ends that have grown out of it in the form of religious superstition and political servitude have not made it a source of more unhappiness than happiness.

This idea shows that it can be turned from its legitimate use and work injury to whole nations. Still, no character is truly noble or beautiful without a fair share of Veneration.

Negroes, as a class, have little Veneration, and this gives them that ready and spontaneous "sauce" with which they are so generous. Their noses are exceedingly depressed at the centre, proving that the bony system is not a dominant one in them. Their religious feelings proceed almost entirely from an over-development of Credenciveness, and this makes them grossly superstitious through not having *reason* with which to balance it. The

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* Combe's Lectures on Phrenology, p. 269.

Mongolian races are, if possible, more superstitious than the Negro. Their noses are depressed at the centre, and in them the muscular system dominates, hence they are more emotional than reflective, more changeable than stable, and show the predominance of all the lower muscular traits. Veneration is small in many of the Oriental races, or dominated by the faculty of Credenciveness. They are all great "believers," great in "faith," in the marvelous and wonderful. Their large, wide-open eyes show that they have the muscular system in the ascendency, and also show that they have for ages been listening to the recital of wonderful and improbable stories and legends. Their religions are based on dogmas, traditions, and fables as unreal and improbable as the "Arabian Nights' Entertainments." It is from the East and Orientalists that our religions, as well as most of our ideas of fairies, witches, spirits, genii, and demons, have come; and their poems, stories, and legends are filled with descriptions of gorgons, gnomes, sprites, and demons. Color here, as elsewhere in Nature, shows power. Accordingly, we find many Oriental races cruel and revengeful, as well as superstitious, amative, imaginative, and licentious, the deep color of their hair, eyes, and complexion *intensifying* all the passions and emotions.

In all undeveloped people and races an excess of Credenciveness, or faith, is thought to be a religious faculty, whereas it is only a mark of an unbalanced mind and absence of practicality. *True religion* is shown where reason and morality hold the balance.

The ability for logical argument is one attribute of this faculty, and where the nose is *broad* as well as high at this sign large reasoning powers may be inferred, as well as capacity for logical ratiocination. Where the nose is high and thin, like a knife-blade, the ability for reasoning is only moderate; breadth here, as elsewhere, makes known its character. The portraits of Plato, Wickliffe, Luther, Swedenborg, Kant, Calvin, Newton, Kepler, John Locke, Benjamin Franklin, George Herbert, and George and John Stephenson exhibit this faculty in a remarkable degree. The love and ability for debating upon laws and principles are also the accompaniments of breadth of the nose at the centre. In the physiognomies of all the great judicial minds of the world the width of this part of the nose, as well as of the entire nose, is most remarkable. The general breadth of body of all comprehensive minds, such as jurists, naturalists, statesmen, inventors, scientists, engineers, and astronomers, proceeds from the perfection of their digestive capacity, and the breadth of the nose at the centre of the bridge is the sign for a strong stomach,—one which digests well and easily. Most of the above-named classes are large eaters, and are thus able to assist the mental processes by creating a sound physical base from which to draw their mental strength. The consideration of great and broad subjects involves immense mental efforts, and sickly, spindling, big-headed, thin-bodied men could not come up to the requirements of such questions. Accordingly, we observe in the conformations of talented jurists and men who reason broadly and profoundly great breadth of body and height and breadth of nose. Look, for example, at the portraits of Lord Chatham, eminent statesman; Lord Mansfield, grand jurist; Buffon, naturalist; Liebnitz, chemist; Thomas Sydenham, celebrated physician; Edward Hyde, Earl of Clarendon, statesman; Lord Brougham, statesman; John Quincy Adams. statesman and orator; Rufus Choate, jurist and orator; Daniel Webster, statesman and orator, and Richard Proctor, astronomer. In all of these men the facial and bodily signs for Veneration will be found highly developed.

The religious beliefs and ceremonies of a race mark its grade of development mentally as well as physically. The highest form of religion is exhibited where morality and reason hold the balance. A correct theology is essential to the preservation of humanity, for the vast majority of people must have laws to control them, and any system of ethics which is founded on the right and intelligent use of the body and mind will tend to the preservation of humanity and to the perpetuation of an improved race. Virtue protects while vice destroys character. Veneration will teach the respect due to virtue. Among the religious faculties Veneration will ever hold a controlling influence. We must remember that religion is a component of *man* by *Nature*, and if we obey its laws and cultivate its sentiments we shall transmit to offspring a *talent* for *true religion;* but let us not forget that compliance with physiological and hygienic law is the *only sound basis* upon which true religion can rest. Religion is exhibited by acts, not disclosed by beliefs. Sickly sentimentalists will give us no improved types of humanity. The study of the natural sciences is an excellent way to improve Veneration, for the laws of God are in these studies revealed to the student in a most wonderful and convincing manner. It is not possible to investigate natural laws in a comprehensive spirit without becoming convinced that there is a great and wonderful power guiding and controlling everything.

There are vast numbers of persons who could not be happy nor brought to do right without the idea of a controlling power. Others there are in whom the osseous and brain systems are in the ascendency,—in whom the faculties of Conscientiousness, Veneration, and Reason are paramount,—who would do right if all existing laws on the statute-books were swept out of existence. Yet this class owe to their ancestors a developed mental and moral nature, who, by the laws of evolution and natural selection have first built up and then transmitted to their offspring uncommon integrity, reason, and veneration.

EXECUTIVENESS.

Definition.—Capacity for governing; love of domination; decision, mental force; ability to perform, consummate, and achieve plans, purposes, and duties; sense of thoroughness; mental courage, resolution. The jurist, commander, presiding officer, captain, and superintendent all rely upon this faculty for their ability to execute and enforce law. It is the base of enterprise, reform, and vigorous action, and makes the natural leader.

An *excess* causes despotism, undue harshness, and severity in executing laws; and makes the parent, teacher, and superintendent too exacting and overbearing.

A *deficiency* creates weakness of character, with no ability for self-control, and no power to fill executive positions. When quite marked, the character will be noted for inertia, feebleness of mind, lack of energy and enterprise.

Facial and Bodily Signs.—The sign for Executiveness is found in the bridge of the nose just above Veneration. It is known by height and breadth of the nasal bones and development of the pyramidalis nasi muscle. The most executive noses are long and broad as well as high, with large nostrils, large mouth, and large eyes (not projecting).

Secondary signs are strong: plentiful supply of hair, luxuriant beard, squareness of the bones; strong, large hands and feet; bushy eyebrows and hair.

Lack of Executiveness is shown by a small nose depressed at this point, or by a small, straight nose and small mouth, small hands and feet, deficient muscles, feeble digestion, and small lungs.

DESCRIPTION OF EXECUTIVENESS.—The physiological base of Executiveness is traced to the osseous and muscular systems. The location of its local sign in the bony ridge of the nose is one proof. Its *curved shape* where it is prominent is evidence of its muscular origin. Observation of the forms of the most executive persons in every department of action reveals the fact that in them there is such a combination of bone and muscle as to facilitate the operation of this faculty. Again, other evidence is afforded by the large size of the *mouth* and *nostrils.* These two signs show *visceral vigor*, and strength of the lungs, stomach, and heart gives force and power to all the mental operations. Most particularly is this assistance needed by those who take command of perilous and arduous enterprises and vast and immense plans for warfare, commerce, and government, or in engineering, architecture, etc.

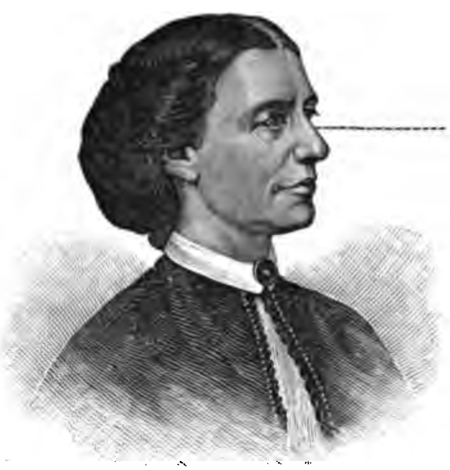

FIG. 83.—MISS CLARA BARTON (PHILANTHROPIST, REFORMER, AND PRESIDENT OF THE ORDER OF THE RED CROSS IN AMERICA.)

Conspicuous facial sign, Executiveness. The law of the straight line, angle, and curve governs this countenance. The signs for Conscientiousness, Firmness, Benevolence, Patriotism, Love of Home, Love of Young, Amativeness, Economy, Sanativeness, Self-esteem, and Friendship are well developed. In the nose the signs for Human Nature, Veneration, Executiveness, and Self-will are most decided. Language is large; so also are Order, Form, Size, Reason, Memory of Events, and Intuition. The life-work of this benevolent woman has an international fame. Her principal work in time of war was on the battle-field, caring for the wounded soldiers. Miss Barton has proved that women citizens will not shirk the duties of citizenship on the battle-field. She is an ardent champion of woman's rights, and lives up to her professions in this direction as far as the law permits. The wide, straight mouth and bright eyes indicate eloquence. The face as a whole denotes Integrity, Benevolence, Sympathy, Energy, Ability to Command, Logic, and Practicality.

The principal facial sign for Executiveness adjoins the sign for the stomach, and hence shows its near relationship to that organ, while it forms the highest point of the nose and thus discloses its relationship to the function of breathing and to the development of the thorax. Now, the stomach and heart are *muscular organs*, and to the high development of these organs and the integrity of the bony system the executive individual is indebted for his physical power. A man with a large, high, and broad nose shows that all of these organs are strong and powerful. He therefore gets his activity and energy from the development of these muscular organs as well as from the entire muscular system, and he gets his *stability* from large and strong bones, while his directive power and intelligence are derived from a brain that is the *manifesting* organ of this peculiar structure. This analysis simplifies very materially the process of reading character. Formerly the method was to ascribe *all power to the brain*, but the largest and most powerful brain in the world, unsupported by powerful muscles and a good bony framework, could not take command of a steamship in a hurricane nor quell a dangerous mob, nor perform any act requiring prompt and heroic conduct or long-sustained mental and physical efforts. A strong visceral organization is also essential to supply the *force*, resolution, and courage which commanders require. Accordingly, we find that men who hold important positions, where courage, decision and authority are required, are broad-chested, broad-shouldered, and have a capacious abdominal system. The head is broad, and they are altogether built upon the *broad plan.* A large-brained man with narrow shoulders, flat abdomen, small, spindling limbs and small hands and feet could not command a steamship nor put down a riot, nor sit for months in a crowded court-room passing upon the judicial questions involved in important lawsuits. Neither could such a one lead a vast pioneering scheme nor command an army in the field, nor pass hours in the laboratory experimenting. No, my readers, brain *alone* is not competent for any of these mighty works; and when the eminent metaphysician, Sir W. Hamilton, wrote

> "On Earth there is nothing great but man,
> In man there is nothing great but mind,"

he spoke from the old metaphysical stand-point, and not from a scientific understanding of man. Man's mind is truly great only when he has a *grand body* to sustain it. The men of action in the world,—those who have advanced the interests of humanity,—who have assisted most in the attainment of a high civilization, have possessed good feeding and breathing powers, large bones, and strong muscles. Look, for example, at the fine bodily structures of Hippocrates, Aristotle, Socrates, Agricola, Francis Bacon, Baron Cuvier, Baron Humboldt, Count Rumford, Sir Moses Montifiore, Father Mathew, John Howard, Abraham Lincoln, Farragut, George Washington, Daniel Webster, John Bright, D'Alembert, Dr. William Harvey, Martin Luther, John Bunyan, and Charles Darwin, and observe in each case that the signs for good breathing and sound digestion are prominent. Men of action must first be good animals, and then, with the assistance of the brain and nerves, may arrive at distinction.

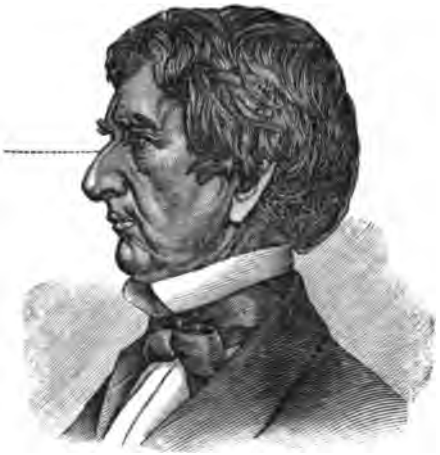

FIG. 84.—WILLIAM H. SEWARD. (TEACHER, AUTHOR, LAWYER, STATESMAN, AND ORATOR.)

Born in New York, 1801. Conspicuous facial sign, Executiveness. The law of the straight line and curve governs this face. The dominant expression of the face is Energy. The signs for Firmness, Conscientiousness, Patriotism, Love of Home, and of Young are well defined. The nose announces a mind of the first magnitude. The sign for Human Nature is most extraordinarily apparent, while Mental Imitation, Hope, Analysis, Sublimity, Ideality, Constructiveness, Acquisitiveness, Veneration, Executiveness, Self-will, and Observation are very prominent. Language, Reason, Order, Time, and Practicality are also well developed, forming altogether the face of a great man, whose power has been acknowledged in the four quarters of the globe.

In all departments of life's activities the power and ability to command and control is required, and, as in civilized countries law and order are the most desirable conditions, the ability to *execute* law and *maintain* order must be considered one of the most useful as well as one of the most eminent traits in the human character. In the savage races *force* or fear is the means by which compliance to rule or law is obtained, and very little, if any, pure intellect enters into the actions of those who govern; hence, we know that Executiveness is a faculty of highly-developed character. All of the signs of character found upon the ridge of the nose are the signs of perfected evolution, and he who is able to govern a state, command an army, direct a large body of workers, or lead a great enterprise must possess the faculty of self-control in a large measure, and this enables him to control others. The local sign for Executiveness lies adjacent to the sign for Veneration, and its upper side joins the local facial sign for Self-will,—a faculty which assists in commanding.

Where the sign for Executiveness is large it forms the sort of nose denominated the "Roman nose," from its resemblance to those noses observed in the portraits of many Roman generals, statesmen, and orators. There are many different degrees of this form. Some present a scarcely noticeable rise above the straight outline of the ridge of the nose. Where this slight rise in its outline is present the disposition is inclined more to self-control than to command others, and gives to the character nobility and high aspiration, and shows it to be above low and vulgar methods of thought and action. Where the rise is still higher and broad the governing ability is quite apparent, and exhibits the power of command required by the leader, teacher, foreman, superintendent, judge, or general. The ability to execute law and to command men makes one bold, resolute, daring, prompt, decisive, and cool in time of danger. It often assumes the aggressive form, especially when found in the physiognomies of military leaders and of discoverers. We see this sign most conspicuously displayed in the portraits and busts of Hannibal, Julius Cæsar, Charlemagne, the Duke of Wellington, John Sobieski, Amerigo Vespucci, De Soto, Henry Hudson, Sir John Franklin, and in the faces of all who have become known to history for their ability to lead large bodies of men in aggressive movements or in difficult and dangerous enterprises. Many great naval commanders exhibit this sign of character and possess its accompanying characteristics. In natural superintendents, foremen, and managers this trait will manifest its presence by some modification of this sign, either small or large. Men whose noses present the opposite appearance, and are low and depressed in the centre, will never succeed in positions of authority. The physiognomy of Admiral Sir Charles Napier is an admirable illustration of Executiveness, and is most suggestive of a lion in its expression. All of the courageous and powerful animals of the carnivora have a strong visceral structure and their wide noses and broad, open nostrils announce great breathing power, while their wide mouths tell us of fine digestive capacity and the large joints betoken strong bones and compact muscles.

The more timid animals are less powerfully organized in these departments of their natures. Comparing the form of the bull-dog with that of the greyhound and their relative courage and endurance, we observe that in the case of the bull-dog a physiology suited to his disposition is the cause of his aggressive spirit, and that a lack of the same power in the greyhound is the cause of his timidity and peaceful character. In one, the width of the body and nose reveals power, endurance, courage, and force; in the other, the long, slim body and long, narrow nose announce a peaceful, timid disposition, without aggressive force of any kind.

A popular error ascribes to the brain nearly all of the powers of the body and mind, and conveys the idea that if one possess a large head with a high forehead he will be capable of almost any mental effort. The truth is that a person with a large brain, small lungs, weak stomach, small abdomen, and small hands and feet is about as useful as a "last year's butterfly," and heavily weighted in life's struggle for existence. I do not care how large the brain is or how high its quality, a much smaller brain with a good physiological structure will show a far more useful character. It takes a good digestion, a strong heart, active lungs, and a fair quality of bone and muscle to make a large brain effective, otherwise it is a positive detriment when great decision, valor, energy, and intrepidity are required. A large brain is less useful than a large body with a small brain. I do not mean a fat body, but a strong-boned, well-knit, muscular one, with sufficient adipose tissue to give warmth and heat, and this assists in producing *force*. Steam cannot be created without fire, and carbon in the human body creates force and energy. The forms of nearly all steamship commanders are characterized by a large bony system, powerful muscles, a round and solid body of medium weight, and a medium-sized, broad brain. The engineers of steamships are nearly all short, broad men, with broad heads; short, thick necks; large, high, and broad noses, with broad chins; and here we have the build for coolness, intrepidity, courage, instant decision, and constancy,—the best form to stay a panic or put down a mutiny. Men of this formation of body are unflinching in the discharge of duty, and are most reliable, trustworthy, and enduring. The contour of their heads and bodies indicates intelligence and resolution. Such a one is Captain Murrell, who rescued over seven hundred persons in mid-ocean from a ship which had become disabled in a storm. He received them into his own ship and cared for them until his arrival at the port of Philadelphia. His bodily build corresponds to the above description, except that he is tall as well as broad. To large Executiveness he adds large Friendship, and is chivalrous and tender to women and children. He is a fine type of his class. There are many more in his profession who present precisely the same characteristics of mind and body.

In choosing persons to act as superintendents in mines, factories, or railroads, or for business, a different form and another sort of Executiveness are required. For these purposes tall, active men having the *practical faculties* dominant should be selected, with a mechanical taste and capacity for criticising machinery, but not so large as to preclude activity; with moderate-sized brain, good, large lungs, and strong digestion, and with the signs for Veneration and Executiveness full. A noteworthy appearance, and one that I have often observed, is that a large number of superintendents and foremen have red or sandy hair. This appearance in such men is in accord with physiognomical law. Red-haired people (if the hair be fine) are aspiring and ambitious, as well as active and approbative; hence, they naturally seek to be first in the occupations best suited to their peculiar mental and physical organization. Water always seeks its level, according to a natural law, and human beings, impelled by the force and direction of their leading traits, gravitate to their own place in the social scale. Men of commanding intellect and force of character (even in monarchical countries) will break through all trammels, and, surmounting every obstacle with the transcending power of their genius, leap at once to the highest pinnacle of fame. Such a man was Michael Faraday, the physicist. Although born in poverty, and striving against the most adverse circumstances, he lived to become the benefactor of society, and by force, fortitude, and industry made for himself a brilliant and lasting fame. Talent and industry accomplish marvels, and prolonged industry merely without great talent will achieve great things. The history of many men who have by their own efforts risen to eminence proves that plodding and unceasing efforts in *one* channel often lead to great results. There is not a genius known to fame who would have been recognized as such had he not added industry to talent. Read the life of Michael Angelo, who studied anatomy eighteen years; of Titian, who painted industriously until his ninety-ninth year; of Mozart, who died of overwork at thirty-five years of age; of Sebastian Bach, who became blind from overstudy and died aged sixty-five years; and of Beethoven, the greatest of all musical geniuses, who labored all his life most industriously. Without extended and consecutive efforts these men would never have been known to the world. Men and women possessed of musical, literary, and artistic tastes require only leisure to pursue their studies and prepare themselves for greatness, but the great *aggressive geniuses* of the world, such as military commanders, founders of new forms of government, and great inventors, must have a *will* to *force* circumstances to give them the necessary opportunity to make their talent conspicuous. The energy and executiveness which men of great mechanical talent exhibit in order to *open* the way for their inventions are sometimes greater than the inventive ability displayed by their genius. In listening to the recital of the efforts which Captain James B. Eadds made in striving to influence legislation and public men, in order to get his great improvments and inventions in engineering before the people, I was struck with the perfectly herculean powers of the man's will and executiveness. His physiognomy corroborates all that my informant related. All readers of biography will certainly form the opinion that geniuses and men of great talent owe as much to their *unflagging energy* and habits of ceaseless industry as they do to their *creative* powers. From biography we learn that many if not most of the greatest minds of all ages have sprung from extreme poverty, and have conquered circumstances by the exercise of a dauntless will. There are some men who, having a taste or love for science, art, and mechanism, believe that if circumstances had favored their youth they might have brought forth some great invention, poem, painting, or musical composition, but, their youth having passed without such opportunity, they see no future in this direction for them. Of this class Francis Galton remarks thus:—

> A prodigal nature commonly so prolongs the period when a man's receptive faculties are at their keenest that a faulty education in youth is readily repaired in after life. The education of Watt, the great mechanician, was of a merely elementary character. During his youth and manhood he was engrossed with mechanical specialties. It was not until he became *advanced in years* that he had *leisure* to educate himself, and yet by the time he was an old man he had become singularly well read and widely and accurately informed. The scholar who, in the eyes of his contemporaries and immediate successors, made one of the greatest reputations as such that any man has ever made was Julius Cæsar Scaliger. His youth was, I believe, entirely unlettered. He was in the army until he was twenty-nine, and then he led a vagrant professional life, trying everything and sticking to nothing. At length he fixed himself upon Greek. His first publications

> were at forty-seven, and between that time and the period of a somewhat early death he earned his remarkable reputation,—only exceeded by that of his son. People are too apt to complain of their imperfect education, insinuating that they "would have done great things" if they had been more favorably circumstanced in youth. But if their power of learning is materially diminished by the time they have discovered their want of knowledge, it is very probable that their abilities are not of a very high order, and that however well they might have been educated they would have succeeded but little better.*

In the amount of energy displayed in the character of different individuals we see the moving cause of their success or non-success. One great adjunct to Executiveness is found in a vigorous thoracic system. The man who can breathe deeply and strongly is better equipped for the race in life than one whose breathing and circulation are feeble. The great breathers of the world—men with large, round bodies—are those who carry off the prizes in all active pursuits. Energy, Executiveness, and Force are derived from good eating and good breathing powers, and they materially assist *deep thinking*, as I have shown; and those parents who would assist the *thinking powers* of a child must take steps to improve his breathing powers. If parents would have their sons and daughters executive, let them endeavor to add a couple of inches to their chest-measure instead of trying to increase the size of the brain by study, even supposing that this method could accomplish that result. I prefer the gymnastic apparatus as a means to this end. My opinion is that this apparatus should be the most important accessory to all schools, particularly of girls' schools. The mothers of the race have *greater need* of deep breathing and energy than the fathers, although each should try to improve the quality of both lungs and muscle.

Mr. Galton tells us that

> Each generation has enormous power over the natural gifts of those that follow, and I maintain that it is a duty we owe to humanity to investigate the range of that power and to exercise it in a way that, without being unwise to ourselves, shall be most advantageous to future inhabitants of the earth.†

In order, then, to become the progenitors of executive, energetic children intending parents should commence a course of gymnastic training, develop the muscles and muscular organs,—the heart, the lungs, and stomach,—as well as the digestive powers by hygienic diet. In this manner it is possible for a mother with a comparatively low nose to expand her lungs and nostrils considerably, and thus be able to produce children whose lungs and nose shall be an improvement on her own, and whose minds shall be far more aspiring, ambitious, executive, and commanding. Form and function are allied forces, and if we would possess high faculties we must have *suitable forms*, made such by high functional activity.

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* Hereditary Genius, Francis Galton, pp. 44, 45.

† *Ibid.*, p. 1.

Executiveness, or the capacity for leadership, is not confined to man. Many classes of animals evince a great deal of this faculty. Goats, sheep, deer, antelopes, and elephants have their leaders.

Among children the born leader soon makes his talent known, for he is "captain," "teacher," or "umpire" of the games by general consent, while the meek, "sheepish" children follow their leader as readily as does the duck or goose.

The capacity to lead, command, and execute is natural or inherited when exhibited in early life. It can be cultivated, as I have shown, by exercise of the muscles and muscular organs. Its highest manifestation in combination is found when Self-will, Conscientiousness, and Veneration are large. Associated with large practical faculties, it gives taste and capacity for superintending mechanical enterprises. In company with literary or art faculties, it gives the disposition to dominate and enforce ideas, plans, and purposes. Executiveness, in those possessed of large oratorical powers, gives expression to bold, resolute, and magnanimous ideas; combined with large reasoning powers, Force, and Constructiveness, it creates the aggressive, strategic, and military commander. It is always more powerful in those who possess a good degree of *color* in the system. Those who exhibit bright eyes, pale complexions, and light hair, even with the sign of Executiveness large, will not be as forcible and vigorous in action as the darker-colored.

SELF-WILL.

Definition.—Volition, spontaneous decision, application, amplification; power for concentrated attention; self-government by force of will; self-confidence; the power of choosing for one's self; strength of opinions; *spontaneous exercise* of one's own desires; strength of will and ability to execute it. Distinguished from Firmness by its not necessarily being consecutive, Self-will is able to bring all its force to bear upon a given object or train of thought, and as readily turn all its power in another direction. It also shows by force brought to bear upon the wills of others or externally upon works of art, literature, mechanism, or other muscular pursuits. Firmness is more of an individual trait, serving to keep one firmly, perseveringly, and continuously at one plan or course of conduct.

An *excess* leads to selfishness, contrariness, opposition, disregard of others' rights and comfort, to tyranny and overbearing conduct. In work its excess leads to prolixity and unnecessary amplification, circumlocution, and detail.

A *deficiency* causes irresolution, timidity, cowardice, vacillation, lack of confidence in one's own powers, with no settled or strong opinions, beliefs, or convictions.

Facial and Bodily Signs.—The principal facial sign for Self-will is fullness of the muscle at the root of the nose at its junction with the forehead. It is caused by the development of muscle.

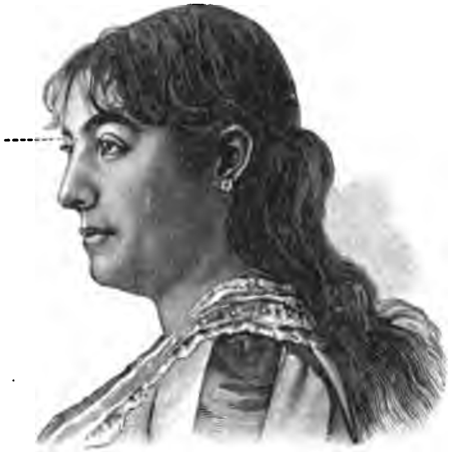

FIG. 85.—EX-QUEEN NATALIE OF SERVIA.

Born in Russia. Principal facial sign, Self-will, shown by height of the nose at its junction with the forehead. The law of the curve and straight line governs this face. In the lower part of the countenance are observed the signs for Firmness, Conscience, Love of Home, Patriotism, Benevolence, Amativeness, Love of Young, and Self-esteem well developed. The nose is long, high, and bony, showing a very positive and strong intellect. The signs for Human Nature, Ideality, Sublimity, Analysis, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are most prominent. Language, Music, Calculation, and Observation are well defined. Credenciveness, Form, and Size are marked, while the deep color of the eyes, hair, and complexion gives force, intensity, and power to all the social, domestic, and mental manifestations.

Other and secondary signs are found in the general development of the muscular system, causing fullness of the muscles of the back of the neck; a curved lower jaw, as is seen in creative artists; rounding out of the sides of the forehead; large, full, convex eyes; short, rounding ear; thick, round nose; short, thick, muscular hands and muscular, tapering fingers.

Where pure Self-will is lacking the nose will be depressed and narrow at the root, and the entire system will exhibit a relative lack of muscle.

DESCRIPTION OF SELF-WILL.—The most conspicuous facial sign for Self-will is exhibited by height and width of the nose at the root or junction with the forehead. Inasmuch as the principal facial signs for decision and self-assertion are found situated in the muscles, and as all the behests of the will are operated mainly by means of the muscular system, and as the stronger passions and emotions are performed by the exercise of the muscles and exhibited in the face by muscular expression, I feel justified in stating that the physiological and anatomical base of this faculty is to be found in the muscular system. When we come to consider that the structure of the brain is mainly of a fibroid nature, we have in this circumstance additional evidence of the *large representation* which the muscular system has in the cerebral organization. When it is considered how many beautiful and useful traits are expressed by the use of this system, it is not at all singular that so large a portion of the brain should be composed of muscular fibres, and that some of the fibrous portion of the brain should stand representative of the function of Vocality, as in language and singing, as well as in the sense of Weight,—the sense of pressure and resistance,—faculties which are entirely dependent upon a fine endowment of muscular or cartilaginous structure. In order to trace the origin of pure Self-will we must go far down the scale of organization, and in the *purposive movements* of the amœba we shall find that this structureless creature has the power of changing its shape *at will*, its exciting stimuli being external impressions only. It is certain that all of the "potencies and possibilities" of the will are latent in the minute speck of protoplasmic material which forms the human germ, and those naturalists who have busied themselves with tracing the course of the evolution of the tissues will find that all the animals and insects which have evolved the best muscular systems exhibit greater will-power, self-assertion, and more *spontaneous* and *instantaneous* movements and decision than those less well endowed with this tissue. The activity and energy of several species of ants, for example, are perfectly wonderful, and their governmental and architectural skill is due entirely to their high grade and fine development of their muscular systems, which dominate the other functions. Of the white ants it is observed that they possess power for the organization of ranks, including military fighting squadrons, while their edifices or constructive works include galleries and corridors, magazines, nurseries, royal

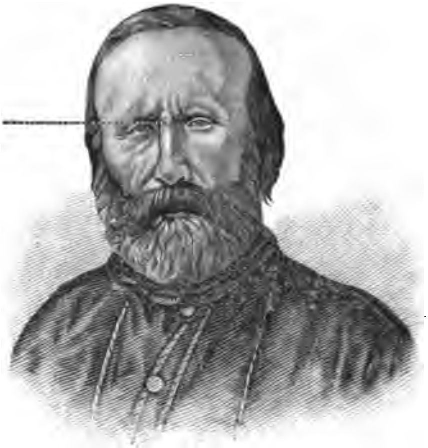

FIG. 86.—JOSEPH GARIBALDI. (STATESMAN, PATRIOT, GENERAL.)

Born in Italy, 1807. Conspicuous facial sign, Self-will, shown by height of the nose at its junction with the forehead. The law of the straight line, square, and cube governs this countenance. The appearance of the upper part of the face is assurance to the scientific physiognomist that the domestic faculties are well developed, albeit they are concealed by the beard. The nose is an extraordinary one, and by its length, firmness, and width its entire length and general height above the plane of the face announces a powerful character. The signs for Analysis, Mental Imitation, Sublimity, Constructiveness, and Acquisitiveness are most conspicuous, while the signs for Veneration, Executiveness, Self-will, Observation, Form, Size, Order, Locality, Weight, Memory of Events, Reason, and Intuition show the highest degree of power.

chambers and halls, offices, ordinary rooms and egg rooms, floors and ceilings, pillars, and other appurtenances.*

Among the higher classes of animals the capacity for prompt decision and action is found the best-developed among the carnivora, whose muscular systems are dominant. The action of *prompt* and decisive Self-will is manifested by the higher classes of carnivorous birds, the eagle, condor, and falcon, for example, and in all of these creatures the muscular system is dominant. The projecting convex eye, the curved beak and talons, the keel-like breast-bone, and the curved back alike denote the supremacy of the muscles and the will. These birds have the power for intense concentration of all the faculties at one time. They will hover over a lake or field, watching with all the intensity of their minds, and finally at a favorable moment swoop down with a tremendous rush and seize their prey. Such spontaneous concentration requires something more than brain or nerves, bones or lungs. Nothing but the muscles could manifest such force, promptness, concentration, and spontaneity.

The knowledge which can be gained from a comparison of animal and human physiognomies as to the origin of the "will" exceeds in practicality all of the numerous and labored metaphysical essays on the subject which have been written. A comparison of the signs of Self-will in the faces of the most refined races with those of the uncivilized will prove that a high grade of Self-will is more characteristic of the higher races than of the lower. Its development in them is attended usually with a great deal of *mental force.* In some instances so great is this power for *decision* and *self-assertion* as to entitle it to rank as a *talent.* The lowest races of human beings do not exhibit that development of the nose where the principal sign for Self-will is situated. On the contrary, the noses of the aboriginal Australians, the Tahitians, many African tribes, and many Mongolians and others disclose very great depression of this portion of the nose. This comparison of the civilized with the uncivilized races reveals to us the fact that Self-will is a high faculty, and related to and influencing the most important traits of character. Its situation being between the executive and mechanical faculties shows that it is the pivot, so to speak, around which all these conspicuous traits cluster, and upon which they are dependent for their power to illustrate most effectively their activity. Decision and self-assertion are among the most commanding powers of the mind. Look, for example, at the portraits of Garibaldi, Julius Cæsar, Mazzini, Ericsson, Humboldt, Talleyrand, Tasso, Harriet Beecher Stowe, Marco Polo, David Livingstone, Charlotte Brontè, Mrs. Hemans, Catherine II of Russia, Elizabeth Barret Browning, Sir Walter Raleigh, and hundreds of others known to fame, and you will become convinced that this is a trait of superiority.

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* Mind in the Lower Animals, J. L. Lindsay, M.D., vol i, p. 59.

There are many men and women, whose facial records prove them to be possessed of large Self-will, whose successful career demonstrates that this one faculty alone has served to make their other traits conspicuous, which, without the aid of a *talented degree* of Self-will would never have given their acts and works the attention which they have gained.

Self-will is a mental faculty, and belongs to the *mind of the muscles.* The plan of this system ascribes to each faculty a representation in the brain, but disagrees somewhat with the phrenological method of localizing signs of character upon the bones of the cranium, as well as with the restricted view that the entire mind is shut up in the skull, and mainly discoverable by the conformation of the *bones* of the head.

Many of the secondary signs of Self-will are discovered in the several muscles of the body, most particularly in the muscles of the neck. All sorts of corroborative signs are found scattered all over the self-willed individual or animal, for wherever the back of the neck is full—developed in muscle—the eyes are found to be convex and large, and this is a sign of muscular power, as observed in the bull, whose thick neck and bulging eyes are indicative of strength and blind, unreasoning will. Of the characteristics which may be discerned in necks of the opposite conformation, Dr. Cross tells us that

> The slender neck bespeaks not only weakness and timidity, but also all the other qualities which follow in their train. The thick neck, on the contrary, bespeaks not only strength and courage, but also all the other qualities which flow from them. The former is pliable, alert, and calculated for obedience. The latter is stiff to a proverb, imperious, and destined to command.*

An excellent comparison may be instituted between the thick neck of the bull and the long, slim neck of the giraffe. The former, secure in his abundant strength, makes his presence known by fearful bellowings; while the latter, timid as a hare, "has never been known to utter a sound" (Rev. J. G. Wood). Silence is one of the methods Nature uses to compensate the giraffe for lack of strength and fleetness, silence in its case serving to conceal its proximity to dangerous neighbors. This correlation of silence with weakness will illustrate my theory of the law of compensation.

The facial sign for Self-will is more rare in the physiognomies of females than in the masculine countenance. Their changeful pursuits and long-continued subjection to man have together prevented the development of any general and marked degree of prompt decision and self-assertion. This long-continued repression of Self-will has resulted in an arrest of development of this trait. Then, too, the life of woman in general is made up of constant changes,—of small occupations or trivialities; very few, comparatively, have the opportunity to pursue one grand and continuous occupation. Domestic life, which occupies the attention of the majority of women, is made up of as many as twenty different and distinct trades, hence it subjects women to constant changes of occupations and constant variations of mental states.

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* An Attempt to Establish Physiognomy on Scientific Principles, J. Cross, M.D., p. 115.

In the countenances of those persons who have for many years made concentrated efforts of the will in a given direction two horizontal wrinkles across the facial sign for Self-will often appear. Many eminent commanders, both military and naval, as well as superintendents, teachers, and workers in art, science, etc., exhibit these wrinkles. In some they are quite deep; in others, less so; but wherever observed they have been caused by the *concentrated* effort of the will, and thus show this effort in the muscles which contribute their facial record. Phrenologians term this faculty "Concentrativeness" and "Continuity," neither of which expresses the action. It is true that it enables one who has it largely developed to place his thoughts and feelings for a certain length of time with great force in a given direction, but it does not give that continuity of action and purpose exhibited by the faculty of Firmness. This latter faculty, although drawn many times from the pursuit of its object, returns again and again, and never withdraws from its aim until it is achieved.

Those who are wanting in Self-will are measurably deficient in the power to concentrate with force all their thoughts upon a given subject, and in writing or speaking wander away from what they had intended to express. It is the same with the speaker who, with perhaps large intellectual acquirements but with small Self-will, fails to hold before his mind all that he desires to express, simply because he lacks the ready force of will to use at that moment. And this explanation serves to show how Self-will is so essential a component of the character of great actors.

This sign (of wrinkles) is never observed in childhood. The former sign of height of the muscle where it joins the forehead is indicated in childhood where there is a large degree of inherited Self-will.

Those persons who have been successful in carrying forward great commercial and architectural enterprises, such as building railroads, laying cables, erecting bridges, aqueducts, and cathedrals, founding and managing communities and governments, and in all undertakings in art and inventions requiring persistent exercise of the will, disclose height at the root of the nose. In many faces in which this sign is large, the sign for Firmness (another sort of will) is often small or only average, and the chin in this case will be somewhat receding. In rare instances both of these will be large in the same face, and this combination gives an exceedingly set, willful, and obdurate character. A proper distinction must be made between the action of Self-will and Firmness, both of which express a personal *force* and reveal a great deal of *selfhood*,—not selfishness necessarily, for whether these traits will result in selfishness depends upon other faculties in combination. Now, Firmness is evolved from the bony system and operated by its action. Will is changeable, shifting, and spontaneous in its action and movement; one moment in pursuit of an object, now against it, according to the *impulse* received; while bone is immovable and contributes by its solidity of structure and reliability to resist and overcome by a *steady, firm pressure*, or rather by its capacity for quiet, persistent action to accomplish its purpose. It is, hence, better adapted to the investigation and expression of law, rule, and the truths of Nature, while muscle is, by virtue of its flexibility and curving nature, better adapted to work in art and to express emotions, as in acting and oratory, or to delineate them with the pen, as in dramatic writing, fiction, and poetry. One must be able to *feel* or imagine the faculties of rage, love, sorrow, or destruction in order to depict them, and bony people are not as emotional and passionate as are the muscular classes, neither have they as nice an apparatus for illustrating passions. Self-will, pure and simple, does not require that one consistent and persistent course of action, either mental or manual, should be pursued. It may be exercised one hundred times a day in opposition or in many diverse pursuits or parts of a pursuit,—now, in a tempestuous burst of anger; again, in as vehement an expression of love; now, in a sublime flight of oratory, or, again, in a long-sustained, five-act tragedy, where all the passions are in turn "torn to tatters." These varied states of mind require muscular force, enthusiasm, heat, and certainly great changeability, for any dominating passion long sustained would, by its intensity, wreck the constitution of the one thus exercising it. The reason why actors do not thus make havoc with their constitutions is because they do not really and *fully feel* the emotions which they endeavor to represent. They only *simulate* the feeling. Then, too, muscle is not sensitive like nerves; in fact, muscle is to a degree *unfeeling*.

It is only by closely analyzing every quality and condition of a tissue that we can arrive at a true basis of mind and mental action. Each mental trait has its own *personal force* and manner of expressing itself. Selfishness is more apt to be revealed by those in whom the vegetative system is dominant, for the reason that this system is one of *negative* self-indulgence and does not bring into action any of the animal powers, such as the use of the bones and muscles, except in a most limited degree, as in the use of the hands in reaching for food, etc.; while the love of motion which inheres in the muscular system expresses itself in art in some form or other. In the characters of all the great creative artists and actors Self-will is one of their most prominent traits; being endowed with a fine quality and quantity of muscle, they exhibit in their countenances all the signs of character which muscle creates, and if one make an examination of a score or more of the physiognomies or portraits of the greatest artists and actors, he will find the sign for Self-will most conspicuously developed, as well as all the other signs which are caused by the presence of muscle. Actors most especially need the reactive power of the muscles to enable them to sustain by a supreme effort of the will a character foreign to their own through the long plays of the great masters of the drama; and, when the long-sustained part is concluded, the actor must be able by the same muscular power to relieve the *tension* of one set of muscles by calling into action quite another set, and herein lies the secret of the actor's skill.

If the brain and nervous system were called into play in acting to the extent that the muscles are, and the burden of the emotions expressed fell upon the brain and nerves (supposing the brain and nerves competent to express emotion), the actor would scarcely survive the representation of one grand drama like "Elizabeth," "Marie Stuart," "Richelieu," or "Julius Cæsar." The current idea that the brain is all-powerful in promoting artistic effort is wholly erroneous, for without a fine quality of the muscles no form of art could be manifested. It is true that a suitable brain for *judging* of art-work must be one attribute of an artist, but a love and appreciation of art merely may and often does exist with little capacity for executing art. Such people may make good art-critics, but cannot carry on art-works through absence of the necessary muscular mechanism.

Now, although muscle gives to the character its power for *exhibiting will*, a suitable brain-and-bone system must be had, when consecution, imagination, completeness, and amplification are required; and this we observe in the physiognomies of those who have led the world in *creative art*, invention, and literature, in grand material enterprises, and in scientific discovery. I offer as proofs of this statement the faces and biographies of all such characters in ancient and modern times. Physiognomy is rich in proofs of its basic principles and theories.

Self-will is so useful a faculty that I can but recommend its cultivation (when deficient) by the same methods which were used by the Greeks, viz., by gymnastic exercises. A thorough course of physical culture will transform a timid, weak-willed child into a character possessed of a fair degree of will, resolution, and decision, and give the necessary courage to say No! to vicious companions. Oratory and elocution were special studies with the Greeks, and are of infinite service in developing will. In a timid child or adult a great deal of self-assertion can be aroused by these studies; besides, they act as a stimulus to the brain, carrying a great deal of blood to the head by the practice of loud tones and the development of the lungs by the several processes of physical culture. The sign for Self-will is one of the most marked facial peculiarities of the Greek physiognomy. Appeals to the timid to "brace up" and "speak out" are of slight avail, but with the assistance of a well-trained muscular system the vacillating, irresolute child will exhibit quite an improvement on his original state.

I think a great deal of wickedness is committed through weakness of will—more perhaps through weakness of some one faculty than by a *positively vicious trait.* A child or adult (whose will is so defective as to be overpowered by the will of a vicious companion) may not incline to sin or vice, but will often consent to it through the influence of a stronger will.

The habitual abuse of Self-will, like all other abnormal manifestations, leaves its impress upon the physiognomy. A permanent scowl is one mark often seen in willful children and adults; glaring, disrespectful looks, another mark; drawing down the corners of the lower lip like a carnivorous animal is yet another sign of unbalanced and unbridled Self-will. Self-will may manifest itself as *selfish will*, or destructive, revengeful will (when revenge, vindictiveness, malice, and spite are inherited); these signs are found in the peculiar appearance of the outline of the nostril, causing it to turn upward, either rounding up as though a piece had been bitten out, and exposing the interior of the nostril as is the case in vicious animals, or else describing an acute angle or acute arch in the lower outline of the wing between the tip of the nose and the place of junction with the cheek. These several formations will be found figured in the chapter on "The Human Face," under "Criminal Noses."

These peculiar nasal forms denote varying degrees of selfish will, force, and resistance, and prove their presence by acts of spite, malice, vindictiveness, or deep revenge. These acts will exhibit the more spontaneous and desperate phases where the color of eyes, hair, and complexion is deepest, but will partake more of the nature of spite and malice where the color is lightest.

In the race of life a good share of Self-will is required, yet an excess is dangerous and will defeat all one's good intentions. In cases where there is too little the remedy has been pointed out. In order to check an excessive manifestation of will it is highly essential that parents should commence in *early life*, and endeavor by a suitable diet to neutralize selfishly-willful tendencies. Then, too, the other traits in combination must be *leveled up* to *balance* this excess. The affections must be cultivated, and, above all, the *conscience* stimulated and *reason* developed, and thus by *bringing up* other good faculties to a higher activity Self-will will sink into the background and become a useful instead of a dangerous force. Children who are allowed to indulge their will too much may become criminals of the deepest dye.

In Nature's great pharmacopœia there is a sovereign remedy for nearly all the ills that flesh is heir to. Air, water, diet, rest, exercise, and self-control are the physicians that can heal the world. Add to these the knowledge of the scientific propagation of the race, and we should soon have a world so delightful to live in that we would prefer to remain here rather than risk the chances of existence elsewhere.

CREDENCIVENESS.

"Let us have truth for authority, not authority for truth."

Definition.—Belief in hearsay evidence, history, tradition, receptivity, biography, and in the laws of Nature; love of novelty, and a desire to hear the "news."

An *excess* of Credenciveness creates childish credulity, gross superstition, belief in the impossible, unreal, and imaginary, and gives a taste for fables and works of imagination; begets belief in dreams, ghosts, witches, fairies, demons, sprites, omens, charms, spells, fortune-telling, and incantations. It makes one a prey to frauds and impostors, and gives rise to belief in the supernatural power of priest, pope, and prophet, which in the Indian is shown by his confidence in the "medicine-man," and in undeveloped races is manifested by their childish and unreasonable beliefs in the sanctity and power of certain objects, animals, and images.

A *deficiency* causes skepticism and unbelief, and makes one doubt or reject all evidence, even of the most unimpeachable sort;

it destroys confidence among friends and associates, and causes one to be non-progressive.

Facial and Bodily Signs.—A conspicuous facial record of Credenciveness is found in the height of the eyebrow above the eye at its inner terminus, also by a *high arching* of the brow at this point. In the Mongolian race, and in other superstitious races, the eyebrow at its inner terminus stands so far away from the eye as to leave a wide space between it and the eye, and seems to divide the forehead in half. Another sign is the wide-open eye, wide-open hands, and ears stretching forward. The mouth in children, undeveloped persons, rustics, and uncultivated people opens in astonishment and wonder at anything new or strange. Wonder, amazement, and astonishment relax the muscles, as evidenced by opening of the eyes, etc.

DESCRIPTION OF CREDENCIVENESS.—This trait has been named "Wonder," "Spirituality," "Marvelousness," and "Faith," none of which express its real office and normal action. Its real use, *unperverted*, is to give confidence in what is written and spoken, as, for example, in history, tradition, teaching, oratory, preaching, and current news. It is found most largely developed in Oriental races, such as the Chinese, Turks, Persians, Arabs, and Hindoos, as well as among other uncivilized tribes. It is a *muscular trait* and is found dominant in the muscular races of people, as above mentioned. The *arching of the eyebrow*, as is seen in poets, painters, prophets, seers, and dreamers, is added proof of its muscular origin. The wide-open eye is another sign, for where the muscular system dominates, or is one of the controlling systems of the body, arching of the brow and fullness of the eye is observable. Its action and appearance are just the opposite to that of Observation. This faculty draws down the inner corner of the eyebrow, and instead of relying upon hearsay evidence *observes* for itself, and thus substitutes a *practical demonstration* for recorded or verbal description. The development of the eye-bones causes the eyebrows to assume a horizontal appearance, and this is the form most commonly observed in practical characters, such as mechanics and scientists, who are so constituted as to demand proof before belief, or who insist upon having *reasonable* evidence of everything. Where Credenciveness is uncommonly developed, or where it overbalances the reason and practical traits, it begets a love of the wonderful and superstitious, and those in whom it is large will place implicit reliance in all wonderful and improbable narrations, such as relate to ghosts, spirits, and "great-snake" stories. Many persons of good judgment in all the affairs of every-day life will accept as a religious belief statements founded upon the impossible, and which truth and reason show to be such.

This faculty is universal, and is found in degrees ranging all the way from its *legitimate action*, viz., a belief in history and well-authenticated facts, to childish credulity and belief in the impossible, in fairies, ghosts, genii, and dragons. Those who possess a very large degree of this trait rely upon the power of charms, omens, incantations, and lucky and unlucky numbers and days; or believe in the sanctity of certain birds, beasts, and insects. "Plain sense will influence half a score of people at most, while mystery will lead millions by the nose," said Lord Bolingbroke.

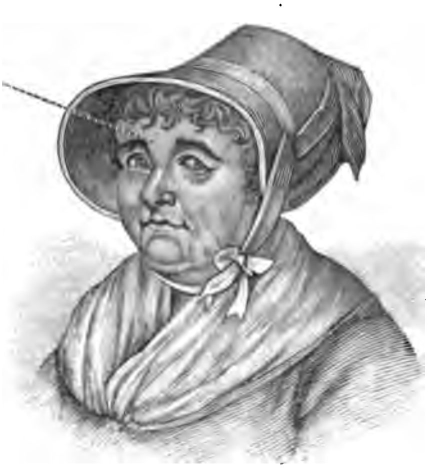

FIG. 87.—JOANNA SOUTHCOTT. (FOUNDER OF A RELIGIOUS SECT, FANATIC, PROPHETESS, AND IMPOSTOR.)

Born in England, 1750. Principal facial sign, Credenciveness, shown by height of the inner end of the eyebrow from the eye. The law of the curve governs this face. The domestic faculties are well defined. Love of Home, Benevolence, and Patriotism are marked; Love of Young very large; Amativeness normal; Conscientiousness hardly average. There is too much soft tissue and too little bone in this organism to create great integrity. Friendship, Self-esteem, Hospitality, and Approbativeness are large. In the nose the signs for Human Nature, Ideality, Analysis, Mental Imitation, Veneration, and Self-will are well defined. The region about the eyes is very peculiar. Form and Size are wonderfully developed. Credenciveness is very apparent. It was these traits which enabled her to see visions, which she palmed off upon her followers as coming from God. The curve of the upper eyelid is abnormal and shows agreeable deceit. Her Memory of Events and Language were large All this added to a very magnetic presence made her the successful leader of a mystic religion.

The facial signs for this faculty are conspicuous in the physiognomies of Joan of Arc, Bajazet, Ignatius Loyola, and Schamyl, a prophet and military leader of the Circassians; also Pope Alexander, Swedenborg, Mohammed, and other great "believers" and superstitious leaders. In the faces of scientists the sign for Credenciveness is so small as not to be perceptible. Why should we believe anything without *reasonable* evidence when the proof is so easily obtained? The world is full of truths and is founded on truth. Were not the laws of Nature regulated by mathematical precision the world could not remain in its orbit one minute. If one make the pursuit of truths—of demonstrable facts—his great aim, he will gather an immense amount of the most interesting knowledge; but if, on the contrary, he pursues myths, fictions, falsities, and fables, his mind will resemble a dust-heap,—nothing of any value will be found in it. Truth is good enough for anybody and needs no spicing, but to those with large Credenciveness a wonderful narration without a grain of truth in it is more attractive than the most demonstrable circumstance.

Credenciveness has its uses in the artistic mind, as, for example, in the works of poets, artists, and painters, as it leads to a love of the wonderful as distinguished from the beautiful and sublime. It is a species of imagination devoted to the creation and representation of a class of ideas resulting in such works as Dante's "Inferno," Doré's illustration of the same, and Poe's "Raven." It influenced largely the works of Milton, Tasso, and Shakespeare. The pictures painted by some of the great masters of art prove Credenciveness to be one element in the characters of artistic genius. It is well wrought out in the following great paintings: "St. George and the Dragon," by Raphael; "St. Michael Slaying Satan," by Schoen; "The Vision of St. Bernard," by Murillo; "Prophecy of the Sybil," by Peruzzi; and in the classic works representing "Bellerophon Slaying the Chimæra," "Hercules and Cerberus," and the "Laocöon." The age of art was replete with paintings, statuary, poems, plays, and books devoted to the exposition of the weird, grotesque, miraculous, and impossible acts of saints and sinners, as well as of satyrs, gorgons, and other unreal beings, which have been believed in by millions of people. The age of art was a *muscular age* and produced numerous singular faiths, and these led to universal superstition, which the science of the nineteenth century is slowly yet surely dispelling. We are coming up into the *bony* age,—the age of science, truth, integrity, and actuality; hence, squareness, solidity, and angularity are required instead of curves and flexibility. Bony races have less

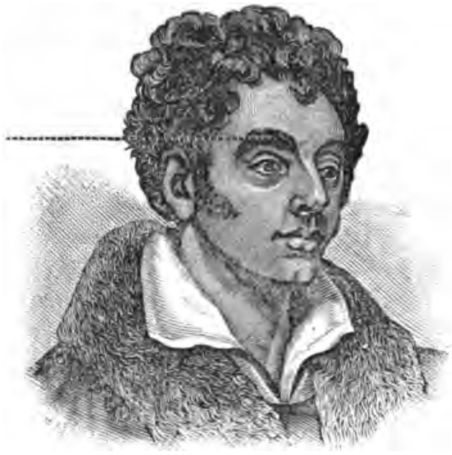

FIG. 88.—ROBERT SOUTHEY. (LITERATOR AND POET LAUREATE.)

Born in England, 1774. Conspicuous facial sign, Credenciveness, shown by high arching of the inner end of the eyebrow. The law of the curve governs this countenance. All of the signs of artistic talent are impressed in the numerous curves of this countenance. The dimpled chin, the curvilinear lips, the peculiarities of the tip of the nose, the convex eyes, curved eyebrows, dramatic jaw, and curly hair announce the artist. The signs for Patriotism, Love of Home, Benevolence, Amativeness, Love of Young, Approbativeness, Modesty, and Self-esteem are well defined. The nose exhibits great intellectual powers. The signs for Hope, Analysis, Mental Imitation, Ideality, Sublimity, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are all prominent; while Prescience, Credenciveness, Color, Form, Size, Memory of Events, Music, Mental Order, and Intuition are preeminent. The outline of the face taken as a whole and of each feature separately suggests great originality and literary talent.

Credenciveness than the muscular races, which are the most credulous and confiding, and most easily imposed upon, especially by anything that has a flavor of the wonderful, romantic, and improbable. A beggar who presents himself to such characters is always more sure of success if he relate an improbable, untruthful, or marvelous account of himself; while one with a true, plain, matter-of-fact story would fail entirely to enlist their sympathies. The muscular races exhibit the very height and intensity of this faculty. It shows in their mysterious, incomprehensible, and impracticable religious theories; in their belief in charms, incantations, spells, omens, oracles, visions, prophecies, and miraculous occurrences; and by their love of the weird, grotesque, romantic, sentimental, and imaginative in art and literature. They are correspondingly distinguished by the absence of scientific thought or mechanical ability, of practicality and accurate observation, and of all the faculties which are present with the bony system; hence, they are one grade lower in evolution than the bony races. Their literature is characterized by symbolism, by metaphoric and mystic language, such as only the imaginative and superstitious can enjoy, for comprehend it they cannot. It is so overladen with monstrous and mystical ideas that no mind can fathom it, as, for example, the Vedas of the Brahmin, the Zend Avesta of the Persian, the Koran of the Mohammedan, and the mythology of the Greeks, not to mention later literatures and religious theories which contain much of the mysterious, absurd, and impossible, borrowed from the old pagan religions. This class of literature does not obtain to any great extent among the bony races; neither do they believe in miracles, as formerly; for science is fast explaining by law what has long seemed to be miraculous, and "miracles," Renan tells us, "are never performed in a country where people do not believe in miracles." As evolution brings humanity up to a higher grade "Earth outgrows the mystic fancies sung beside her in her youth." Nearly all religious theories of the Orient, as well as a large part of its literature, are simply stupendous and barbaric nonsense, or a "license of imagination" which logic and the laws of Nature can disprove and will dispel.

The best use to which we can put our Credenciveness is to have faith in *ourselves* and in the laws of God as shown through the laws of Nature, for these laws are infallible, and Nature has labeled everything so plainly that if we will but use our powers of *observation* instead of faith and credenciveness we shall be able to *demonstrate* all that we need to know, and thus we shall be spared the vague uncertainties of the overcredulous. Children who have inherited this faculty in a large degree will be fond of fairy tales and descriptions of the wonders of Nature. Where this trait is excessive it should be led and trained to a useful purpose, and history, biography, and accounts of natural phenomena should be substituted for the wonders that these minds crave. Teach them *facts*, but let them be presented in an entertaining manner. I am sure that an investigation of Nature's works will afford sufficient scope for all the marvelousness in a child's mind. Teach them the growth of the sponge, coral, and polyp; unfold to them the marvels and beauties of the sea-anemone, sea-urchin, octopus, and argonaut. Furnish them with a magic-lantern, a floroscope, and a microscope, and allow their youthful minds to expand in the light of *Nature's truths*, which are as marvelous and wonderful as the fables of old, and which can be presented to the minds of children in a manner as fascinating as are the fairy tales and novels, which, if read unrestrainedly in youth, will surely bear the fruits of impracticality and disappointment in age. The hope of the world is in our youth, and just "as the twig is bent the tree is inclined;" hence, I say, give to our youth the *marvels* and *wonders of Nature* upon which to feed the taste for the marvelous, and we shall soon have a race of trained scientists and naturalists. This course, adopted in youth, will produce innocent, truthful, and pure-minded men and women. I know of nothing which so cultivates the moral sense, purity, and truth as the study of the natural sciences, and as now written for children by our talented authors they are simplified and made interesting to any child not already corrupted and vitiated by a course of novels and fairy tales. It is a notable circumstance that the great naturalists and scientists of the world, such as Newton, Humboldt, Herschel, Mrs. Somerville, Darwin, and others of the same pursuits, have led lives of such innocence and purity, truth and integrity, as will bear comparison with the best of the earth. They are examples worthy of imitation. A life-long study of the laws and truths of God as shown in Nature would seem best adapted to develop the sense of *truth* and *morality* in the human mind. Scientists and mechanicians present in their moral characters a grade of integrity not surpassed by any class.

The Oriental religions have fostered a love for the marvelous, and a perusal of many of their dogmas, doctrines, and beliefs is enough to turn the head of a sane and common-sense person. The Romish church was the great patron of art during its supremacy, and thus it is that most of the works of the great masters are representations of its legends, traditions, and miracles, which are firmly believed in by the devotees of that faith. *Faith*, not evidence, is the crowning virtue of all religions. It is unfortunate for the human family that *demonstrable truth* is not the groundwork of all religions, more especially as the works of God are teeming with truth. A certain degree of faith and credence is essential in our intercourse with each other. The child ought to believe in his parents and teachers, the citizen in his rulers, and the people in their moral guides, but all these classes should be able to prove and show by conscientious conduct that this confidence is not misplaced. Fortune-tellers, astrologers, and so-called prophets depend upon an unbalanced condition of Credenciveness for their success. No class of people is more easily duped and cheated than they, for they are very responsive to the dominant faculty of their own nature. It is a law of human nature that one is most easily influenced by the action in others of the traits which are strongest in himself, and no impostor, fortune-teller, or prophet could long succeed who was lacking in the elements of superstition and credulity. Sir Walter Scott remarked that

> No man ever succeeded in imposing upon the public as a supernatural personage who was not, to a certain extent, the dupe of his own imposture.

This exposition of the *rationale* of Credenciveness instructs us how essential it is that we should possess faculties which are in themselves *true*,—that is to say, eyes which are *perfect* in their mechanical construction, possessing the capacity for correct vision, and set *straight* in their orbits; ears whose structure is such as to receive *accurately* the impressions made upon them; and a clear skin, sensitive to all external sensations of touch and temperature,—in order that this extensive mental sense shall conduce to *correct* feelings. The senses of scent and taste, when *normal*, assist in distinguishing odors and flavors, and thus all of the so-called five senses contribute to *integrity*, or *wholeness* and soundness; in other words, *trueness* of all the sense-organs, and trueness, straightness, and rectitude (from the Latin word *rectus*, right) must be the condition of all the senses of the mind and body in order to gain correct impressions and right ideas of all subjects. Now, these straight and true sensations and ideas proceed naturally and spontaneously from straight and true bodies, and not from crooked or warped bodies or features. Hence, education as to trueness, uprightness, and straightness of conduct and thought will not *eradicate* inherited crookedness, but will no doubt modify considerably the tendencies to crooked and erratic action and speech. When one is able to perceive and hear everything correctly, he is most liable to repeat in his works and language the same true principles, and, as truth and straightness are underlying principles in Nature's laws, the straighter the body and features, the more nearly correct will be his conceptions of duty, religion, and science. Crooked muscles, or even the tendency to curve easily, is a childish condition relatively, and those nations, races, and individuals who are "believers" in very marvelous religions are those that *curve* easily, hence are liable to have ideas which are curved, warped, or askew, as compared to the straight and true ideas of those more rectangular in form and more *solid* and reliable in structure, as are the osseous races and individuals. "As a man thinketh, so is he" is true as regards his mind and body. As a man is formed, so will his thought and morals partake of the same conformation. For example, an analysis of the forms of different poets and a comparison of their works corroborate the theory of straightness and curvativeness. Contrast the writings and form of Whittier with the writings and form of Dante. The former gives us truthful yet charming descriptions of life and rural scenery, clothed in rhythmic and melodious language, while his descriptions are so true to Nature that one can see the winding of the brook, hear the song of the sky-lark, inhale the odor of the new-mown hay, perceive the glistening dewdrops, and hear the murmuring of the insect world as he pictures them with his pen. But all are true, yet made ideal and vivid by the touch of his genius. On the other hand, the descriptions of Dante, in his "Vision of Hell, Purgatory, and Paradise," are most false and exaggerated, and deal with all sorts of supernatural personages and conditions. It is rather remarkable that the faculty of Credenciveness, as developed in most poets and painters, outworks in descriptions of the horrible and grotesque rather than of the beautiful and supernal. The following portraiture of a character in Dante's "Hell" will illustrate his peculiar phase of the marvellous or Credenciveness in excess:—

> "Oh! what a sight!
> How passing strange it seemed to me when I did spy
> Upon his head three faces, one in front
> Of hue vermilion, th' other two with this
> Midway each shoulder joined, and at the crest
> Two mighty wings, enormous as became
> A bird so vast. Sails never such I saw
> Outstretch'd on the wide sea. No plumes had they,
> But were textured like a bat, and there
> He flapped i' the air that from him issued still
> Three wings wherewith Cocytus to its depth
> Was frozen. At six eyes he wept! The tears
> Adown three chins distilled with bloody foam.
> At every mouth his teeth a sinner champed,
> Bruised as with ponderous engine, so that three
> Were in this guise tormented."*

A mind that could conceive and externalize in verse such a horrible being as this must surely possess a face quite different in its aspect from that of the mild and serene Quaker-poet, Whittier, to whom hell, devils, and monsters are perfectly abhorrent.

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* The Vision, Alighieri Dante, p. 118.

A comparison of the faces of Dante and Whittier by the student of physiognomy will disclose the sources of the different kinds of talent exhibited by each.

The physiognomy of Thomas Carlyle contrasted with that of John William Draper is a study, and corroborates the wildness and originality of Carlyle's curious intellect, as well as the truth-loving disposition of Draper. It quite justifies Mr. Ruskin's criticism of Carlyle that he was "born in the clouds and struck by lightning."

A normal or balanced amount of Credenciveness enables one to receive and discuss new ideas and methods, hence is allied to progress. Adventurers, navigators, and investigators of new and untried principles are assisted greatly by the receptivity of their natures. Announcement of the discovery of vast quantities of gold in California led thousands of wonder-loving and adventurous spirits to that country. The result is a community in which the love of the marvelous and sentimental is one very noticeable trait, for fortune-tellers, mediums, patent-medicine venders, and astrologers abound, and all sorts of mystic philosophies are entertained, their chief claim to consideration being that they are novel and mysterious. Many, too, having tired of the mysteries of orthodox faiths, search about constantly for some new and novel mystery.

Mr. J. Stanley Grimes says:—

> We frequently see a spiritualist who does not believe in Christ, but believes in A. J. Davis; he does not believe in the Virgin Mary, but he believes in Kate Fox; he does not believe in the Apostles, but he believes in the Davenport boys; he does not believe that the omnipotent God could assume the human form to make communications to man, but he believes that Katie King, John King, and any number of dead savages can become incarnate, and exhibit themselves to believers!*

In cases of this sort, the man who changes from any superstitious religion to another one still more so only proves that the strongest faculties gain strength with age, and exhibit themselves accordingly.

As receptivity is one of the supreme conditions of childhood, so is it one of the elements of Credenciveness; hence, adapted to the reception and belief of what is heard or taught in the home, school, or church. The ancient Greeks were a wonderfully receptive people, and their mythology is replete with wonders, miracles, and impossible and mystic narrations. They were also a muscular and an artistic people. Sculpture and oratory reached their acme in that era. They were a philosophic people, and philosophy is the childhood of science. It *precedes* scientific discovery, and when it is based upon an *accurate* knowledge of the laws of Nature it is of great use in illustrating and expounding principles; but, like the infant, it *cannot stand alone*, for philosophy without a basis of truth may be the merest nonsense: yet Greek philosophy was the forerunner of modern science; astrology of astronomy; alchemy of chemistry. These infantile developments had their use to humanity, and while their devotees were looking for signs and wonders—for the "philosopher's stone" and the "elixir of youth"—they stumbled upon many a truth which the scientific spirit of this age has wrought into a practical result.

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* Mysteries of the Head and Heart, J. Stanley Grimes, p. 120. Chicago.

Certain animals possess and exhibit a sense of the marvelous, and are superstitious in their own fashion. Dr. Lindsay remarks on this point that

> Such animals as the dog unquestionably possess superstition. It exhibits practically a belief in the supernatural or preternatural. It expresses alarm at apparitions, spectres, ghosts; thus, it has been described as regarding an owl as a ghost, and the same kind of ghosts that are made use of in practical joking or for more serious ends—for the intimidation of man, and that frighten him—produce the same effect sometimes, at least, on the dog. A *fertile imagination* frequently leads the *horse* as well as the dog to be terrified at the first sight of perfectly harmless objects, animate or inanimate, especially when seen in a state of motion and in comparative darkness,—objects, that is, which are simply for the moment new, not familiar, not understood, and which, therefore, being associated with supposed danger, inspire timidity or terror as well as possibly a sense of the mysterious or supernatural. Bartlett speaks of a sense of mystery or of mysterious dread in certain animal inmates of the London Zoological Gardens. In many animals under certain circumstances awe or dread of the unseen, unknown, untried, unheard really gives birth not only to a feeling of mystery, but, as is pointed out in another chapter, to genuine delusion.*

The position of the facial sign for Credenciveness is most significant. In its appearance it is precisely the opposite of Observation,—a most practical faculty; the former drawing up the muscles away from the eye in awe and wonder, and the latter bringing the brow down close to the eye in order that it may focus readily upon the object under inspection and thus assist *accuracy* of vision. A wide-open eye will undoubtedly take in a *wider* expanse, but will not take as accurate and *precise* a view as the small eye with the eyebrow drawn down to shade it. Where the eyes are extremely large and protruding, the character exhibits *natural exaggeration* in describing scenes, conversations, etc. Hence, those thus characterized are not the most reliable witnesses. They are given to gush and emotional "sentimentality" in which there is little reality, and this gushing emotion ought to warn us not to give too much credence to these wonder-eyed believers in mystery

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* Mind in the Lower Animals, J. L. Lindsay, M.D., vol. i, p. 223.

The following beautiful comparison between superstition and science is quite apropos to our present subject. I append it, hoping it may give my readers as much pleasure as I have received from it:—

> Superstition is the vague dream of a mighty mind half awakened from its midnight slumbers. Science is the perception of that same mind awake to all the realities of noonday. Superstition is a giant, naked and ignorant, struggling in a darkened cavern amid enemies and friends, whose forms are but imperfectly seen and whose powers and designs are dreaded but not understood. Science is the same giant, clothed in modern refinement, amid the full blaze of knowledge, with the press, the steam-engine, and the telegraph at his command, and clearly perceiving that God is his father and all mankind his brethren.*

PRESCIENCE.

"Who taught the nations of the field and wood,
Prescient, the tides or tempests to withstand?"—POPE.

Definition.—Knowledge of events prior to their occurrence; capacity for foreseeing, foreknowing, and "sensing" events, phenomena, and transactions; the spirit of prophecy, forejudging and anticipating the future. It gives a taste for discussing a future life and divests one of the fear of leaving this world.

An *excess* of this trait in an uncultivated person might lead to a superstitious belief in occult or supernatural powers, fortune-telling, etc. In this case it should be repressed. It is, however, a rare gift, and usually found only with great intellects or pure-minded and elevated characters; hence, it is seldom misapplied. Many claim these powers who do not possess them, and practice fraud and trickery for gain.

A *deficiency* is not to be regretted, for it requires great Conscientiousness and rare judgment to make the highest use of prevision.

Facial and Bodily Signs.—The region about the eye is the locality where signs for seeing, foreseeing, insight, intuition, wonder, credenciveness, and all that class of traits which have physical sight as their basis are to be found. Where Prescience is large the eye at *its inner corner* sets very far back under its bony encasement, and the subject seems to be looking far forward at something in the distance, while the expression of the eye is dreamy and contemplative, together with a wistful, mild, and amiable expression. The faculty of Prescience is more frequently observed in those whose bodies are spare, skin fine and clear, limbs thin and relatively long, their hands and fingers thin and sometimes delicately pointed. It is also found in varying degrees in other formations, yet wherever it exists the sign near the eye will declare its presence.

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* Phreno-Geology, J. S. Grimes, p. 183. 1851.

Description of Prescience.—Prescience is not Spirituality, Credenciveness, nor Intuition, although partaking somewhat of the nature of each. It is an elevated and refined trait, never seen in the coarse and brutal. It is one of the rare faculties and not a common endowment, for some possess scarcely a germ of it, while in very rare instances a genius in this direction is observed,—scarcely one in a century, however. It is pre-eminently a poetic trait. (See the portraits of Dante and Longfellow.)

The action of this faculty is the least understood of any, but sufficient is known to teach us that it is evolved from a peculiarly fine organization of brain and nerves. It is not always accompanied by large reasoning and observing powers, yet when it is we have a first-class scientific mind, such as Charles Darwin and Alexander Humboldt, or an artistic one, such as Milton, Dante, Mrs. Browning, or Raphael. I have observed its action in many individuals in private life not noted specially for any talent, yet always refined and of pure and noble traits, unspoiled and untainted by the world. I have also found it co-existent with ordinary minds in every nationality, yet more frequently among the Scotch or their descendants in other lands; also among the Scandinavians.

There are, doubtless, many grades of power and development of the foreknowing faculty, and, like all the other traits, it is influenced by those associated with it. The shape of the ethmoid bone and superciliary ridge gives it its peculiar appearance, which is quite different from the appearance caused by a predominance of the signs for Locality and Observation. Prescience is thus shown to be exhibited by *form* and governed by quality in its manifestations in divers persons. Its principal facial sign is a little difficult to find by a mere written description or by a picture, yet after once seeing its location and appearance in the living subject it can be always readily discerned.

The action of Prescience is best observed in the aged subject, for long-continued use of a faculty makes a decided impression upon the face and imparts judgment in comprehending it and in using its powers; to the aged this faculty is particularly satisfying, as it relates them to a future state of existence as well as affords them glimpses of the coming of events before they occur. It is thus a species of mental meteorology which can foresee and predict the future occurrence and recurrence of affairs and events without having to rely upon the observation of signs, as does the meteorologist.

The direction which Prescience will take depends upon the force or development of the other traits in combination. If the domestic traits are dominant or decided in one who possesses this power, he will be warned by presentiment of changes in his domestic affairs and occurrences, and will be able to prognosticate the death, sickness, mental disturbances, or suffering of members of the family at a distance. If Friendship is active he will foreknow what is going to transpire among friends. Where the scientific traits are supreme Prescience will lead to the discovery of principles, and enable one to predict with certainty the appearance of scientific discoveries and occurrences. With large intellectual powers and large patriotism combined, it will lead to precognition and almost to omniscience in forecasting great national events. With a large and cultivated intellect, large Credenciveness, and large Language, the individual will write and prophesy in spiritual subjects, and forecast the future state of mind and spirit, as did Swedenborg, Ann Lee, and other seers. If the poetical nature is exhibited, Prescience will show in poetic numbers, as in the following from Longfellow:—

> "O thou whose daily life anticipates
> The thought to come, and in whose life and round
> The spiritual world preponderates,—
> Hermit of Amesbury! thou too hast heard
> Voices and melodies from beyond the gates,
> And speakest only when thy soul is stirred."

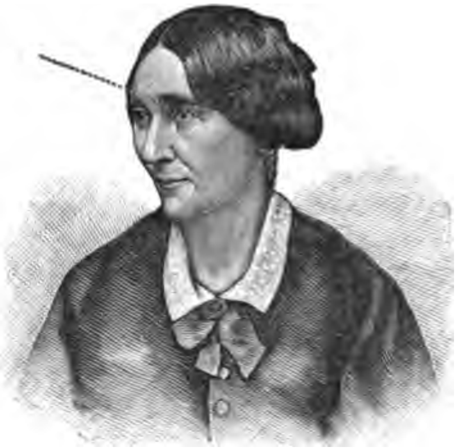

FIG. 89.—ALICE CARY. (REFORMER, POETESS.)

Conspicuous facial sign, Prescience, shown by vertical depth of the inner corner of the eye. The law of the straight line and curve governs this face. Firmness and Conscientiousness are well defined; so, also, are Patriotism, Love of Home, Benevolence, Mirthfulness, Self-esteem, Modesty, Friendship, Amativeness, and Color. In the nose the signs for Pneumativeness, Ideality, Human Nature, Constructiveness, Acquisitiveness, Veneration, and Self-will are most apparent. Language is highly developed; while Form, Size, Locality, Memory of Events, Credenciveness, and Intuition are quite noticeable. This lady's poetic talent was of a high order. Her labors for woman's advancement and equality are lovingly and gratefully remembered by the women of America.

Almost every person is acquainted with some dear old lady who foresees and predicts domestic events, such as change of weather, sickness, death, or disturbances among family or friends, just at or before the time of their occurrence, and later finds that those events transpired just as she had stated. It is remarked that the gift of Prescience is more common to woman than to man. This is owing probably to her higher quality; yet there have been men of commanding intellect, combined with large Prescience, who have excelled in predicting and forecasting the future, and in anticipating great events; such a one was Alexander Humboldt, author of "Kosmos, a Physical Description of the Universe," who also foretold the day and hour of his death. Swedenborg was another gifted in this direction. Charles Wesley also exhibited previsive power in a religious way.

Many accurate predictions in regard to the weather are made by those who possess this gift, and some have forebodings of something sad or calamitous about to happen, yet cannot state what it will be. Others, with a more previsive perspicacity, can detail accurately the course of coming events, which are justified by their occurrence.

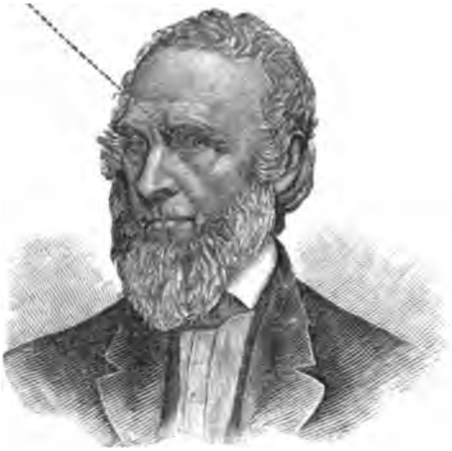

FIG. 90.—JOHN GREENLEAF WHITTIER. (POET, REFORMER, PHILANTHROPIST.)

Born in Massachusetts. Principal facial sign, Prescience, shown by vertical depth of the eye at its inner corner. The law of the straight line and curve governs this face. The brain, bone, and muscular systems in the order named are highly developed in this subject. The signs for Firmness, Conscientiousness, Benevolence, Patriotism, Love of Home, Self-esteem, and Modesty are all well defined. In the nose the signs for Mental Imitation, Sublimity, Ideality, Constructiveness, Human Nature, Cautiousness, and Acquisitiveness are very pronounced; while Veneration, Executiveness, Self-will, Observation, Form, Size, Language, Color, Locality, Order, Prescience, Memory of Events, Reason, and Intuition are large. Credenciveness, Alimentiveness, Bibativeness, Amativeness, and Love of Young are below the average. An expression of purity, serenity, benevolence, and of mental and moral power is stamped unmistakably upon the countenance of this philosophic poet, whose pen has been ever bravely used in the cause of the oppressed.

As humanity emerges from its infantile condition it parts with many of its youthful traits and takes on a more mature endowment. The race, as a whole, has progressed rapidly since mediæval times; hence, all those traits and powers which were then dominant, such as credenciveness, faith, prescience, prophecy, foreknowing, foretelling, and prevision are not now as general as formerly. Science has given to the world such positive and demonstrable methods of arriving at results that the former methods have by disuse become weakened and have gradually ceased to attract the attention and command the same consideration as formerly.

Prescience, like Intuition and Instinct, has in some respects both an infantile and a matured nature. It is not always clear in its foreknowledge and not always sure, hence it is not unerring; yet in some instances its predictions and prophecies are scientifically correct. I have known those who could foretell the result of an election or a trial by jury with considerable accuracy, also the result of a battle or campaign. Their predictions were looked upon with more or less respect, and if they coincided with the results of the event predicted they were looked upon as "shrewd guessers." Relying too much upon these methods of anticipating events leads to fraud, trickery, and delusion, for, unless one knows the physiognomical signs for this power he may be misled and humbugged by those frauds and charlatans termed "fortune-tellers," "clairvoyants," etc., who infest all large cities and thrive off the too-credulous portion of the public. The application of the laws of scientific physiognomy in their case shows that science is for the purpose of prevision or foreknowing, for, by applying its principles to the physiognomy of rogues one may, with certainty, predict that they are going to cheat and deceive,—an instance of previsive power not excelled by any exhibition of the faculty of Prescience.

August Comte, in his "Philosophie Positive," observes that science is previsive, and that by a knowledge of various sciences we can foreknow, foresee, and avert dangers, death, and calamities. This is a strong assertion, yet a true one. We now have the facilities in most large cities, and at other points, for foreknowing the approach of a storm, sometimes two or three days in advance of its appearance; also from which direction it will come, and thus mariners and others may take advantage of these prognostications and avert disaster and losses.

Our present knowledge of sanitary science teaches us how to avert epidemics by well-devised systems of cleansing great cities by drainage and the use of disinfectants. All these methods are previsive. By a scientific knowledge of a man's face one can say with certainty (if in that face he observes the signs for Friendship large), "This man will always have friends,"—a previsive knowledge of character to be known only by the laws of Scientific Physiognomy. It is a settled law of human nature that we receive in kind that which we give. If one continually extends friendly offices, hospitality, kindness, love, and amiability, he will, in the long run, receive the same treatment; but if, on the contrary, he deals out hatred, malice, deceit, slyness, and treachery, he will find those who will mete out to him a good share of the same, and some even who will be ambitious of excelling him in this direction.

As science advances in its upward progress, and discovers laws and principles in regard to mind and matter heretofore unknown, we enlarge our ideas of the possibilities of mental powers, and thus many things which have appeared "supernatural," the "works of the devil," or operations of the "black art," are now referred to as mental or psychological phenomena; and, although our knowledge of the occult powers of the mind is in its infancy, yet we are gradually arriving at a more comprehensive and liberal view of what is obscure, mysterious, or unusual in connection with the mental powers of man. The liberal and scientific spirit of the age encourages the *examination* and *discussion* of all subjects, unhindered by persecution and legal penalties, hence it is probable that great light in the direction of psychology will be attained in this century. Such knowledge can come only by thorough investigation and research, not by ignoring phenomena, nor by ascribing them to the "devil" or other suppositious characters and powers; and, if we cannot immediately solve every riddle and unfold every mystery, we can at least be candid, and suspend judgment until the facts and evidence are all in and the related laws discovered and connected. No one can say a thing is *impossible* until he can *prove* that it is so. Arago, the eminent mathematician, conscious of many mysterious appearances in Nature, exclaimed: "He who outside of pure mathematics pronounces the word *impossible* lacks *prudence*," and I may add that he would also lack conscientiousness, for to deny what one cannot disprove is evidence of a total lack of both truth and logic. While not ignoring singular appearances, nor ascribing all mysteries to fraud or delusion, one should beware of accepting as truths the many singular phenomena put forth as such by ignorant, vicious, or deluded persons. "Try all things; hold fast that which is good," is an excellent maxim.

Prescience, like all other mental faculties, is a fallible trait, and cannot be trusted implicitly in every one; yet when one's predictions, prophecies, or forewarnings have proven true in the majority of cases much stress may be laid upon them, and credence given to their prognostications. There are many and varied ways in which the prescient faculty manifests itself. In some it appears in warning dreams, yet not all the dreams of such are to be relied upon; in others, foreknowledge and predictions of the approach of death are often found to be correct. Some are forewarned of approaching death or disasters to themselves or friends by apparitions, while others, still, see in a trance or in a cataleptic state events that are occurring, or foresee that which will occur in distant places, and the results often confirm their visions.

The evidence bearing upon the existence of so-called occult powers in large numbers of persons of all ages, sexes, and conditions is incontrovertible, and I shall not deny the existence of such mental powers simply because I cannot state their laws nor clearly analyze their origin and operation. I leave this for time and more fortuitous circumstances to reveal. The history of all nations, ancient and modern, are replete with accounts of the prophecies, sibylline utterances, trance-visions, and forewarnings of seers, prophets, poets, clairvoyants, spirit-mediums, etc., and these phenomena form so great a part of modern knowledge that he would be a hard-headed skeptic who would doubt the reality of powers which are as mysterious as they are abundant. A vast literature has been elaborated in these days upon the occult powers of the mind, and societies for the purpose of psychical research are to be found in all civilized lands. It is to be hoped that these associations in connection with scientific instrumentalities will be enabled to throw some intelligence upon this somewhat obscure subject, and that some well-understood *laws* in relation to this entire class of phenomena will be elaborated.

The possession of the prescient faculty gives to its possessor a love and desire for a future life, and thus robs death of its terrors. I have a dear friend who exhibits this trait in a wonderful manner. She is unusually cognizant of any great suffering, mental trouble, or sickness and death in any member of her family at a distance. Sometimes this knowledge comes in dreams; sometimes she "feels it," as she says, when awake. This lady on one occasion was very ill, and given up to die. She derived great happiness from the prospect, and prepared for her laying out and her funeral services. She selected the dresses of every member of the family, the position of her coffin in the parlor, and named the hymns to be sung at her funeral. All this gave her as much satisfaction as some would derive from the preparations for a wedding. She spoke with impatience and longing for the meeting with friends and relatives who had gone before, and said to me that she was just going into another state, and felt as contented about it as if she were preparing to travel to a distant part of the land to visit her relatives there. Every article for her entombment was submitted to her, and chosen with taste, and made up and laid aside for her expected demise; but she recovered, and still keeps all these articles in order that the same preparations will not have to be again made. This aged lady possessed a most beautiful character, and one might well believe that such a character would not be afraid of any fate in the future which destiny might have in store for her. This lady was not a professing Christian, hence her longing for the future life did not come from a belief in those doctrines, but was the offspring of the *action of the faculty of Prescience*, which was manifested all through her life in many ways, although in her own case they were not accurate.

The manifestations of Prescience are different in each individual; not only does it differ in its mode of manifestation, but also in the degree of power which it exhibits, just as with every other trait. Some have scarcely a germ of prescient power, and such characters are not able to comprehend it in others. I was for many years a disbeliever in the reality of its existence, believing that honest people who professed a belief in it were dreadfully deluded; but years of research, aided by discoveries in Physiognomy, revealed its presence in the human mind, and by comparison of those who were gifted in this respect I was able to locate and describe its most salient features and signs in the face.

The most common manifestation of this trait is in the form of *presentiments;* in some instances they are faint and obscure, in others clear, distinct, and profound. Some persons are continually forewarned by presentiments, and by acting upon information thus obtained trouble and danger are averted. There are many persons who have never had a presentiment of coming events, nor been warned in dreams, nor seen visions nor spirits, nor ever experienced any form of so-called supernatural phenomena. Such characters are usually very practical persons, hence assistance of this sort is not necessary to their well-being.

Where the gift of Prescience is excessively exhibited, it will be found upon analysis to be the compensation for the absence of some other trait or traits, as, for example, deficient practicality or keen powers of observation; or it may be the lack of the elements of self-defense, and previsive knowledge steps in and protects its possessors from threatened dangers; it may compensate for too great delicacy of body.

The faculty of Prescience is exhibited in various animal races in as many modes as in the human family. Their foreknowledge of approaching storms and weather-changes has always been observed. It is suggested that they have some peculiarity of the senses which is so acute as to give them notice of slight variations in the temperature,—too slight for man's observation. In regard to this peculiarity, Dr. Lindsay tells us—

> Many animals are so susceptible to atmospheric influences that they are sometimes supposed to be gifted with a sort of Prescience of coming weather-changes, such as rain, wind, cold, heat, or thunder. They are popularly regarded as a kind of weather-prophets, forecasters, or prognosticators, superior in some cases, it is averred, to the barometer itself. Among sensitive animals of this kind are to be mentioned the common crow, the robin of England and Canada, and the blackbird of England; the porcupine, South American cattle, dolphins, and spiders; the swallow, duck, sea-mew, heron, common fowl, and other birds; the cat, tortoise, dog, swine, and monkeys. The prairie-dog, Gilmore assures us, is superior to a barometer.*

Again, he speaks of another sort of Prescience exhibited by animals. He observes:—

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* Mind in the Lower Animals, J. L. Lindsay, M.D., p. 307.

Many animals show a singular *Prescience* of certain classes of coming events. Thus, certain birds and other animals appear to know when a given district or country is becoming infected with *epidemic disease*, in which case they leave or avoid the infected district or country till the epidemic has disappeared. This has been especially noticed prior to outbreaks of such diseases as *cholera* in man. In the autumn of 1874 a paragraph taken from a German journal called the "Jardin Zoologique," and relating to supposed or alleged foresight in birds, went the round of British medical journals and newspapers. It stated that "a few days previous to the terrible ravages of cholera in Galicia in 1872 all the sparrows suddenly quitted the town of Przemysl, and not a single bird returned until the end of November, when the disease had entirely disappeared. The same circumstance was remarked in Munich and Nuremberg. During the attacks of cholera at St. Petersburgh and Riga in 1848, in Western Prussia in 1849, and in Hanover in 1850, every swallow and sparrow forsook the towns, and remained absent until the eradication of the scourge." Other illustrations, varying greatly in their character of apparent foresight or prescience in the lower animals, are to be found: 1. The discovery of a master's thoughts or intentions by the dog or cat, including, for instance, the discovery of intended murders or robberies. 2. The discovery of water-supply in the desert, steppe, or prairie by horses, cattle, camels, frogs, baboons, as well as by the blacks in the central deserts of Australia. Here, again, the so-called *instinct* of the lower animals or savage accomplishes that which too often baffles all the intelligence of the white man. 3. The coming of ships long before they are sighted by man. Thus, long before a ship is sighted off the coast of Tahiti she is signalled by the simultaneous crowing of all the cocks in the island. It is next to impossible to attribute the fact to a fortuitous coincidence, as it reproduces itself regularly without any exception,—so regularly, indeed, that pilots, both French and native, act upon this species of signal by putting off to sea in their canoes in search of the coming vessels. 4. Premonitions or presentiments of death, danger, or misfortune, especially by the dog, cat, and horse. These premonitions include a forewarning of coming earthquakes on the part of the ox, sheep, and horse, which take alarm and betake themselves to flight and safety.*

Many animals show the presence of various sorts of prescient instinct, thus proving that a faculty which many suppose to be superhuman or spiritual is possessed in nearly all its phases by some species of animals. This should teach us that in this phase of existence every faculty is *material* and exhibited by means of a *material medium*, viz., by our senses.

In all ages of the world there have been sibyls, prophets, diviners, seers, and in these days they are termed clairvoyants, spirit-mediums, etc. Some are pretenders and impostors. Others doubtless have the gift of seeing and foreseeing what is hid from the less-developed senses of the majority. It is the same with all mental gifts. Some have the faculties of Music, Number, Color, or Construction in a wonderful degree, while others are greatly lacking in these directions. We are not to infer that because some are deficient in Prescience all others are equally so. This method of thinking is illogical, and not warranted by fact. It would be just as reasonable for a man who could not distinguish one tune from another, and who disliked music, to say that because he could not sing no one else could, and that all the so-called music was nothing but noise. I have known persons so destitute of musical ears as to hate music, and to consider all singing "squalling" and piano-playing "banging," yet this was not proof of the absence of melody in others nor want of harmony in the science and art of music.

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*Mind in the Lower Animals, J. L. Lindsay, pp. 152, 153.

While recognizing the fact of the existence of the faculty of Prescience we should be on our guard against the pretensions of would-be diviners, for all obscure phases of character present a wide field for the operations of pretenders. It is just the same in the remedial science; there are quacks and pretenders without number. Were it not for the aid of scientific physiognomy they might continue to pass for true physicians; but science, which is unveiling, discovering, and enlightening us in every direction, will strip the mask off these charlatans, and the full light of its brilliancy will unfold the character of every one of them to our gaze.

It has often been questioned whether the face of childhood gives evidence of traits which seem to the ordinary observer to be the result only of age and experience.

Prescience, like some other faculties,—Amativeness, for example,—exhibits greater activity after childhood is passed; yet both of these faculties, when largely inherited, disclose their power by unmistakable facial indications.

Children who inherit Prescience, and who show its presence in action, are thought to be "queer" and given to "fanciful notions," etc. The cause of the peculiar action on their part arises from the lack of experience by which to properly translate their *instinctive* feelings in this direction in an intelligible manner.

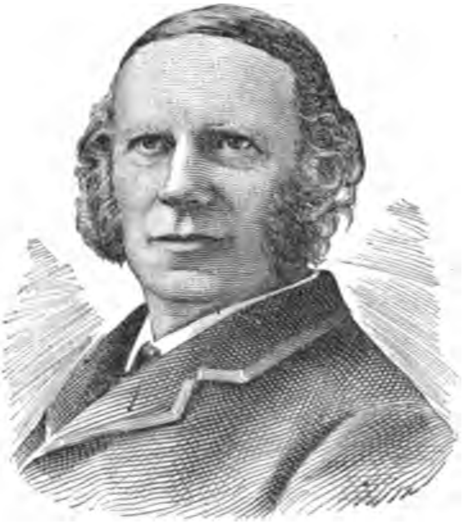
Prescience is one of those faculties which certainly shows its greatest power with advancing age, but where this faculty is *inherited* in a large degree the infantile physiognomy will very early disclose its presence. The portrait of "Little Stanley" is proof of the high development of prescient power in infancy. This beautiful child comes of poetic and dramatic ancestry, and in the æsthetic classes we find often a high degree of the *foreseeing* faculty. Many poets and seers write of the future progress of race and of the world with unerring, prophetic vision.

The infant whose portrait adorns page 599 will exhibit (should he live) great artistic talent.

Although the face is that of an infant only two years of age, his features show most uncommon development, and very decided characteristics.

The portrait on this page is a very interesting and instructive illustration of Prescience in the adult.

The present age seems to be evolving universally more of the higher and rarer faculties of the mind; hence, we observe in every civilized community most active research into the so-called "occult forces" of mind and matter.



T. DE WITT TALMAGE.

(DIVINE, LECTURER, AUTHOR, ETC.)

Conspicuous facial sign Prescience. The law of the curve governs this physiognomy. The brain, muscle, and bone, in the order named, govern this mind. In the face of this celebrated man there is much to interest the student of Human Nature. In the chin we observe the signs for Conscientiousness, Firmness, Patriotism, and Love of Home. The slight dimple in the chin shows æsthetic tendencies. In the lower lip Benevolence is well represented. In the upper lip Love of Children and of pets are very noticeable, while the sign for Amativeness in the centre of the upper lip shows not only that he has a high appreciation of the opposite sex, but it also indicates a talented degree of Creative ability. Modesty is well shown, and is needed in this character to balance Self-esteem and Amativeness. Hospitality, Friendship, and Approbation assist his social efforts. The intellectual powers are shown in the mouth, nose, and eyes. The mouth and eyes denote Language most eloquent. In the nose the signs for Ideality, Sublimity, Imitation, and Construction are conspicuous, as are also Executiveness, Veneration, and Self-will. Prescience is exceedingly large, while Intuition and Memory make up a most unique individuality.

The mind in its upward evolutionary progress is developing those faculties which, in action in former ages, were held to be the suggestion of evil spirits, hence inimical to the human faculty. The spirit of inquiry which a more liberal and scientific age has fostered offers every facility for investigating those mysterious phases of mentality which were at one time under the ban of religion and of society, and which subjected those who exhibited them to most severe penalties.

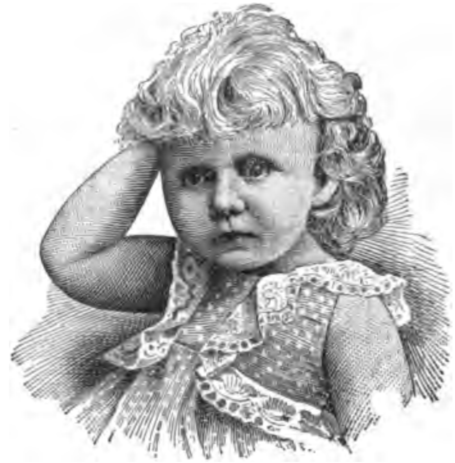
Among these natural gifts of mind are found many which are now being investigated by the most learned persons of the age, with the view of discerning the laws which underlie them.

Their aim is to obtain, if possible, the use and purpose of these singular and obscure forces which cannot now be explained to be demonstrable theories; nor can they be ascribed to the "devil," as was the vogue during the "dark ages" whenever mysterious occurrences took place which theologians could not explain,—a short-hand way of hiding their ignorance from the masses.

Of the many occult human forces now attracting the attention of scientists, hypnotism seems to be no nearer a scientific solution than other obscure phenomena.

This force, like all other human power, seems to be productive of both harmful and beneficial effects. Another phase of occult power is seen in what is termed "Spirit Manifestations." Large numbers of persons in every community claim to be able to produce certain tangible effects and obtain most astounding information through what they believe to be "Spirit Power."

As yet, no *laws* have been discovered which place these phenomena upon a scientific basis. There is no doubt but that, as time rolls on, the laws necessary to understand *all* mental phenomena will be known; for nothing in the universe exists without underlying and governing laws. Possibly the faculties essential to the discovery of these now-hidden laws are not evolved. Every day is adding to the achievements of science, and it is not improbable that, in the near future, some scientific genius may arise, Newton-like, and give to an expectant world the laws which operate to produce the manifold phenomena known as Electricity, Magnetism, Spirit-power, Hypnotism, Foreseeing the Future (Clairvoyance), Mind-Reading, Describing Distant Scenes and Persons, Thought-Transference (Telepathy), Communicating Mentally without Speech, Seeing Apparitions, etc.



LITTLE STANLEY.

Born in New York, 1890. Conspicuous facial sign Prescience. The law of the ovoid and curve governs this physiognomy. The brain and muscular systems dominate. In this face the social and domestic faculties are well defined. The signs for Modesty, Self-esteem, Hospitality, Love of Children, Digestion, Approbation, Ideality, Friendship, and Analysis are large. The faculties of Veneration, Self-will, and Executiveness are pronounced, as are also Language, Construction, Memory, Size, and Intuition. Altogether, these traits assist in making a marked artistic individuality.

There is too much evidence of all these phenomena to dismiss them with the cry of "fraud." For myself, I believe that every phase manifested by the human mind is intended for the good of humanity. The fact that we do not understand *all* phases of mentality does not prove their uselessness.

Very few persons understand the rather-obscure faculties of Intuition, Prescience, Human Nature, etc. Yet in these pages the laws which govern these, as well as other mental faculties, are explained and proven.

To such an extent has the hitherto obscure and mysterious science of physiognomy advanced that it is now, by the methods herein elaborated, brought even to the comprehension of school-children.

One of the greatest pleasures in connection with my work in the field of physiognomy is instructing children in its laws and theories. It is amazing how easily they learn how to discern and locate the signs of character in the face.

The theory is too profound for young children; but the practical part can be as easily comprehended by the average child as can the localities, forms, and colors of a geographical map.

I advise all parents who read this work to spend some moments each day imparting to their children some of the practical truths herein contained.

Children are very susceptible to Form and Color, and the human face is most richly endowed with varied colors, forms, and motions, making a more interesting subject for study than a lifeless map.

It seems to me that no subject can be made so fascinating as the study of the human physiognomy.

It is the first object upon which the eye falls in infancy; the last upon which the eye looks in death. All through life one is confronted with faces, and yet no preparation is made in our schools for its study in youth, at the age when this most essential of all studies should be taught.

I predict that, within the next decade, the science of physiognomy will become incorporated with the regular course of study in our universities and high schools generally. It has already been adopted by one university, and lectures have been given on this subject in the Medical Department of the State University of California.

I have never found any study, not even that of music, more attractive to children than physiognomy. As soon as they have learned to discern the signs of character in the face, and can locate them, they begin to apply this knowledge to the faces about them with great accuracy; and as they have no preconceived ideas in regard to the face, as have most adults, they learn much more readily.

By all means, instruct the children in physiognomy.

CHAPTER II.

(CONTINUED.)

THE PRACTICAL DIVISION OF THE FACE.

WE are now about to take up the consideration of the practical or mechanical group of faculties. These depend mainly upon the peculiarities of osseous and muscular development, assisted by their connection with the motory and central nerves. It must be borne in mind that the facial signs of the faculties found clustering about the eyes, those of Form, Size, Observation, Locality, and Weight are not fully developed until childhood is passed, as the bones and muscles of the entire body, as well as of those about the eyes, have not at this period assumed their normal size, form, and strength. Moreover, some of these signs are produced by development of muscular tissue, others by deposition of osseous material; hence we must connect them with the gradual and progressive development of those systems as well as with the exercise of these traits. In view of these facts, it is absurd to claim that the evolution of these faculties and powers is due to *brain development alone.* It is true that the brain enlarges *pari passu* with the general growth of the body up to a certain age or stage, but the projection caused by bone and muscular tissue in the lower part of the skull near the eyes is not due to this circumstance. It is not caused by brain matter, as I have shown elsewhere, but to the growth of *other tissues.* Deposition of brain-substance could not take place here at this point, for the frontal sinus and the muscles of the *corrugator supercilii*, the superciliary ridge, the *os frontis* and ethmoid bone *prevent* any *such accumulation* of the *brain-matter here.* The development of this portion of the head arises from the *natural* and *general development* and perfection of the *muscular* and *osseous systems*, and these are the systems most used in mechanical and scientific pursuits as well as in aiding all artistic efforts. This evidence is conclusive. Moreover, we have the following evidence from one of the early and most original writers on *phrenology* to emphasize what is here stated. It is taken from a work on Phreno-Phrenology, p. 78, published in 1851 by J. Stanley Grimes, who observes:—

> The bones of the skull and of the face *change* by a *regular law of development* in all healthy persons alike, and nearly in the same degree in all. The *bones* of the *forehead* in childhood and in mature age are very different;

the *frontal sinus* becomes developed; the *superciliary ridge, the zygoma and the mastoid and corrugator muscles all develop and enlarge so as to entirely change the appearance of the head* and induce *unskillful observers to suppose that the growth of the brain* has produced all this difference in the external appearance. The brain itself undergoes changes by the regular and natural development of its parts, some parts being more developed at certain ages. Whether the cranial organs are exercised or not the head will tend to assume the form which was possessed by the ancestors at the same age.

The evidence here given by this observer is a corroboration of my observations of a life-time and is most appropriate at this juncture, just as we are about to examine minutely the facial signs of those faculties which have been erroneously named "mental organs," and said to be caused by the development of "brain-substance" at these points. The signs of character in the lower part of the face about the mouth, chin, cheeks, and nose are self-revealing and cannot be called "organs of the brain," but, as we arrive at an examination of the signs about the forehead and eyes, "unskillful observers," as Mr. Grimes says, "might believe these signs due to the development of brain-matter."

With these preliminary remarks and an invitation to closely inspect the parts now coming under investigation, I proceed to the description and analysis of the facial signs of the practical and mechanical faculties in man and animal.

FORM.

Definition.—The capacity for remembering forms and shapes; ability for spelling, drawing, modeling and (in combination with Weight) for carving and sculpture, anatomy, portraiture, and physiognomy; it assists science, especially in geometry, mineralogy, architecture, mechanism, dress-fitting, and pattern-making. Form is always large in naturalists, navigators, astronomers, actors, and poets. A square-built man will remember and reproduce square and angular shapes best, while the round-built person will deal best with the circle and curve.

An *excess* of Form might result in useless mechanism, but, as the field for configuration is simply illimitable, a large degree of this most useful trait generally results in activity of a useful sort.

Deficiency in Form incapacitates one for many mechanical and artistic pursuits. It causes poor spelling and creates defective judgment as to the form or outline of everything in existence. No one greatly deficient in Form should attempt the study of surgery, the making of machinery, dresses, or art-works.

Facial and Bodily Signs.—Width of the *bony structure* between the eyes is the facial evidence of good judgment in configuration and memory of the form or shape of things observed, and of ability to reproduce form in art, science, or mechanism.

Description of Form.—The anatomical base of the faculty of Form is found in the bony framework of the body. This is so patent that one needs only to observe the differences of structure in one who exhibits a large degree of Form and one who is greatly deficient in this trait. The bony system, like all other systems, undoubtedly has its *representative* in the brain, but to say that the *width* which is caused by the peculiarities of the osseous formation is an "organ" caused by a deposition of brain-matter at this place is a most palpable absurdity. Width between the eyes is the result of a *wide construction of the bones at this point.* Breadth between the eyes is not only indicative of the mental power of memorizing and reproducing form and shape, but it is indicative, first and primarily, of the power of certain physical functions. Where there is breadth between the eyes the whole median line of the brain is wider than where the bony framework is contracted at this point. Not only is the brain wider through its middle portion, but the nose is wider and the lungs exhibit more of a *sidewise growth*; the heart has more room within the ribs; the *pelvis is broader*; the legs set farther apart, and the whole outline of the individual is on a *broader* scale than where the eyes are set close to the nose and where the orbits are near together.

The logical person can, from this description, readily infer what important results would flow from a wide conformation of the human body through its middle portion. The visceral organs would be relatively stronger through having more room for *sidewise expansion*, and, as in the carnivora (notably in the lion), a strong visceral structure creates vigor of mind as well as of body, so a broad human head on a broad body denotes visceral vigor, primarily, and, secondarily, *breadth of intellect.* The nose and nostrils of the lion are broader than the nose of any other beast, and men whose noses are broad between the eyes, as well as high, possess strong will and great breadth of mentality as compared to those whose noses are narrow between the eyes. I have known many brilliant writers and speakers who were narrow between the eyes, but were incapable of *breadth* and *profundity* on any subject; they were poor spellers, too, although highly educated.

As all things in existence possess form or shape of some sort, the one most gifted in this direction is, therefore, more capable of becoming universally intelligent. It is impossible for the human mind to conceive of anything without form or shape. Even those who claim that they see divine or celestial beings and scenes always describe them in terms of earthly formation. It is impossible for the human mind to imagine anything that is not earthly in its appearance; especially is this true when they come to deal with "divine" forms. Sir Charles Bell, on this point, writes thus:—

> The idea of representing divinity is palpably absurd. We know nothing of form but from the contemplation of man.*

The chapter on the "Basic Principles of Form" traces Form to its origin,—at least, as far as the human mind can reach out for illustration. Form, whether exhibited by the cube, plane surface, or circle, is based on the sciences of geometry, mathematics, and architecture,—the ruling principles of universal form.

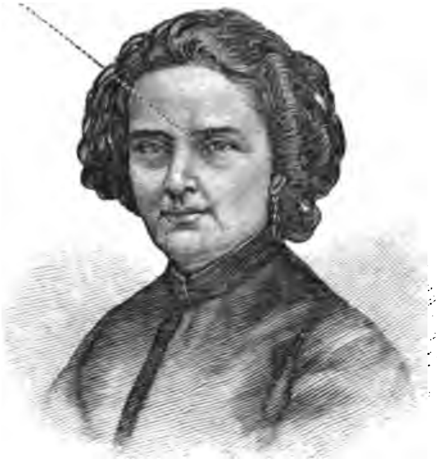


FIG. 91.—MISS HARRIET HOSMER. (EMINENT SCULPTOR.)

Born in America. Conspicuous facial sign, Form, shown by width between the eyes. The law of the straight line, curve, and square governs this face. The signs for Conscientiousness, Firmness, Patriotism, Love of Home, Benevolence, Approbativeness, Love of Young, Amativeness, Modesty, Friendship, Alimentiveness, Mirthfulness, and Sanativeness are all exceedingly well defined. Self-esteem is only average. The artistic signs in the nose of Sublimity, Analysis, Ideality, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are prominent. Form and Size are conspicuous, while Observation, Locality, Weight, Order, Calculation, Memory, Language, Intuition, and Artistic Reason are very apparent. Credenciveness and Prescience are small, and the practical or observing powers are in the ascendency. A face of power, dignity, and sympathy.

Form is the basis of all trades and professions, for upon its principles the mechanic, artist, engineer, surveyor, astronomer, draughtsman, botanist, anatomist, actor, musician, optician, jurist, and statesman depend for the illustration and expression of their work and ideas. *Thought has form*, and is first shaped in the mind of man ere it is put upon paper. The idea of the actor in regard to his impersonation of a character results in gestures and in attitudes of the body, and the gestures of the actor, elocutionist, and orator must describe *curves* in order to be graceful and expressive. The musician depends upon the form of the sound-waves which are carried through the air to his ear. The waves of sound are curved or wave-like as they pass through the air, while the external ears of those who hear best are *rounded* and the inner ear, or *cochlea*, is *spiral* in form. The sounds proceeding from wind or stringed instruments are curved, and *all force of every sort whatever has form* or produces a certain

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* Anatomy of Expression, Sir Charles Bell, p. 22.

form while *in action*. The undulations of light and heat, as well as of sound, describe forms. The earth is spherical in its form as well as the primitive cell of animal and vegetable tissues. We can mention nothing which exists that is shapeless. This being the case it is readily seen that a good form in man is most essential, for we can best express in our works the principles which are the strongest within us; hence, well-formed, symmetrical people are best adapted to the use of this faculty in external work. Round-bodied persons use and express a different class of form from that used by square-built people. Now, square-built people love set, square, precise, and orderly forms and shapes, while round people love and create objects which are curved, wavy, or circular in their conformation. Again, round-built, muscular people make more graceful gestures than square-boned people. The former dance, skate, gesticulate, pose, and walk with more ease than the latter, hence they make better artists, acrobats, actors, and orators than the latter class; while the square-built person is better adapted to trades and professions requiring order, precision, and the use of angles, right lines, cubes, planes, solids, and mechanical principles, and a knowledge of the relations of shape and extension. Round persons who are broad between the eyes are well adapted to setting up and running machinery, judging of diameters, weights, and magnitudes, and are able to balance well, climb dizzy heights, and retain their equipoise; while square-built persons are better judges of horizontals, angles, obliquities, and perpendiculars of objects, edifices, and machinery, and are better able to build machinery than they are to manipulate it after it is built. Those who possess Form large and Size small will be able to reproduce the shape or outline of an object, but will not so readily delineate the size. On the other hand, one with Size large and Form small may be able to describe the size well but not the form. These two faculties are closely related, and Size will be next described.

The art of spelling depends upon the development of Form, so also does phonography. They are both mechanical gifts, depending upon the degree of the development of Form for their illustration. Writing is an art; hence, round-built people exhibit the most beautiful handwriting, abounding in graceful curves, while tall, square-built persons show an angular, long-looped handwriting. Many highly-educated persons cannot acquire a fine and graceful handwriting through lack of the requisite amount and quality of muscle, for writing, like gesture and oratory, requires flexibility of muscle, and in square-built persons the bones are supreme, hence they cannot bend and curve easily.

The difference in the "musical touch" upon the piano or other instrument of these two classes of persons is in harmony with the differences observed in their formation. Muscular persons produce a *round*, *full*, *rich tone*, while the more angular, bony persons give out a clear, ringing, resonant, decided tone. In manipulating a sewing-machine the operator with soft, muscular fingers will produce the best work, but the angular or square-built worker will best cut and fit the work, yet will not run the machine as easily nor produce as artistic work as the former.

All great artists are very wide between the eyes and all possess Size as well developed as Form. These two faculties are necessarily related, and, although some persons possess a large degree of one and a small amount of the other, yet eminent artists, mechanics, naturalists, anatomists, etc., possess both large. They are uncommonly large in the faces of Baron Cuvier, naturalist; Humboldt, scientist; Sir Astley Cooper, Dr. Jenner, Dr. Harvey, physicians; Linnæus, botanist; Watt, Fulton, and George Stephenson, mechanical inventors; Sir Isaac Newton, discoverer; Hogarth, Titian, Guido Reni, Raphael, Fra Bartolommeo, Carracci, Murillo, Paul Veronese, and Domenichino, artists. Michael Angelo said:—

> An artist should have his measuring tools not in the hands, but in the eye.

All great composers are broad between the eyes. Music is primarily a science. The *art* of music is the superstructure which rests upon a scientific base. Mathematics and Form are the mechanical bases of music, for sound, like all forces, has shape, and nearly all the great composers possess a large bony framework with a well-developed brain, together with an excellent muscular system, while Beethoven, the "father of music," exhibits a square-built appearance. Wagner has a very bony face, as well as Liszt, Verdi, Weber, and Haydn.

Singers and players, as a rule, are more muscular and round in form than composers. They require flexibility mainly. Less intellect and less bone are required for the production of sound merely. Intellect and stability are not the predominating characteristics of singers and instrumentalists. Many of them exhibit childish and capricious characteristics. Yet some good singers have an average intellect, but the *great* ones, as a rule, display musical intelligence mainly.

Physiognomists must possess large Size and Form in order to judge of and retain the *shapes of persons*, *faces*, *and features*; hence, we see both these faculties large in the physiognomy of Locke, Aristotle, Cicero, Porta, Averroës, Lavater, Redfield, and

Walker, and all the great minds that have observed and written upon this subject. It is an essential constituent of the mind of the detective, shopkeeper, policeman, railroad conductor, and teacher. Form has been extensively used in kindergartens, in object-lessons, in the past few years. It is destined to produce the most important results, developing in children a taste and talent for fashioning articles upon true geometrical principles. In these schools young children learn how to reproduce the form of the cube, square, sphere, circle, pyramid, and other geometric forms, and thus lay the foundation for all the trades and arts in early childhood. All young children should be taught to draw upon their slates and afterward cut out in paper the outline of every garment and the separate parts of every garment that they wear. Both boys and girls should be trained in this method at home and at school. Boys, in addition, should be taught to draw and cut out the individual parts of a house, a ship, and all sorts of machinery, and draw pieces of all things used in the mechanic arts, in order that they may be equipped for active work in a trade or profession as soon as they are old enough to commence the more advanced branches of mechanism.

The basic principles of Form, as given in this work, will assist the artist, mechanic, and inventor, and give physiognomists an infallible chart and compass to depend upon. These principles should be taught in schools in connection with physiognomy, as well as in relation to all object-lessons.

> Animals possess in a most remarkable degree the faculty and memory of configuration. As low down in the animal tribes as the toad there are evidences of the presence of Form and Size, shown by its examining and testing the size of crevices in walls in relation to the dimensions of its own body; in other words, it takes measurements—makes calculations—of size and shape. Bees, as all bee-keepers know, can tell their attendant from a stranger. Smuggling dogs distinguish custom-house officers. Certain London railway dogs recognize their own special friends among the porters or other officers at the different stations, making, it is asserted, no mistakes. Other dogs frequently distinguish from other men the murderer, burglar, or thief, the butcher-dog or dog-stealer, the poor beggar or tramp, their masters' inferior and well-conditioned visitors, policemen and foremen, with their callings and their objects.*

Here it will be perceived that animals are guided not only by the shape and appearance of their friends and masters, but have an uncommon knowledge of human nature in a degree not possessed by man. Some animals, like some men, possess large Form and small Size, or the reverse. The parrot shows a decided power of recognizing persons, pigeons, and localities, but not *vice versâ*

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* Mind in the Lower Animals, J. Lauder Lindsay, M.D., vol. i, p. 249.

(Darwin); while every one has seen the feats of "learned dogs and pigs," which are very expert in selecting alphabetical blocks by their shape and also perform many simple arithmetical problems, —of course, guided by the sense of Form as well as of Calculation. Animals suffer from perversion of this trait just as do human beings, and show it in just the same manner, viz., by suspicion of things but half perceived in the twilight or darkness of the night. Persons possessed of large Form, whose nervous systems have become impaired, are often great sufferers from morbid fancies, imagining scenes of suffering or violence, in which they and their friends are actors. With large Credenciveness they believe in supernatural appearances, and with a talent for poetizing they can produce in verse forms, figures, and landscapes with surprising fidelity. Form in a large degree is an especial attribute of the poet, and the works of all talented poets teem with descriptions of figures, both supernatural and real. The physiognomies of Byron, Tennyson, Longfellow, Swinburne, Goethe, Schiller, Whittier, Burns, Mrs. Hemans, Shelley, Dryden, and Shakespeare are uncommonly broad between the eyes, and Size also is large, showing that they had the power of *visualizing* the characters and scenes which they have portrayed in verse.

Chess-players invariably exhibit large Form and Size. Paul Morphy, Zukertort, Steinmitz, and Blackburn possess a phenomenal degree of Form.

> Blackburn and Zukertort can play blindfold as many as sixteen or twenty games at a time, and win 20 per cent. of them at least.

The fact is that they can *picture* in the mind the positions of the chess-board and remember the positions of the pieces as they are played. It is related by the biographer of William Blake, poet and painter, that he could paint for hours the figure of a sitter long after he had gone. He said "he could see the person just as plainly as before leaving." Such power for mental photography is rare, indeed.

The sense of visualizing Form is not confined to those in civilized life, but is often exhibited by barbarous tribes. The Bushmen are excellent draughtsmen, and, according to recent travelers, are very expert in free-hand drawing, and draw the outline of a giraffe or buffalo with such unerring precision as to need no correction. Mr. Galton says:—

> The Esquimaux are natural geographers, and draw charts of their coasts which accord with those done by the most skilled draughtsmen of the admiralty.

From this description of the faculty of Form it is shown that it is adapted to the knowledge of everything in existence, and that it is required alike by animals, barbarians, and civilized men.

The location of its facial sign adjoining the eye is a conspicuous example of the relation of faculty with function, for forms must be *seen* to be comprehended, and the eye is the centre of the signs of several practical faculties. The sign for Size adjoins Form and Locality, while the sign for Observation bounds them above. All these traits *work together*, and are naturally connected in their practical operations. The group of signs about the eye is an eminently noteworthy one, and serves to emphasize the wonderful methods Nature takes to make her meanings known to man. *The grouping of the signs in the face* is, next to physiognomy, the most wonderful *fact* in existence, as it is the most perfectly demonstrable.

SIZE.

"A dark
Illimitable ocean without bound,
Without dimension, where length, breadth, and height
And time and place are lost; where eldest night
And chaos, ancestors of Nature, hold
Eternal anarchy amidst the noise
Of endless wars, and by Confusion stand;
For hot, cold, moist, and dry, four champions fierce,
Strive here for mastery, and to battle bring
Their embryon atoms."—MILTON'S "Paradise Lost."

Definition.—Capacity for judging, by the eye, of size, height, depth, breadth, length, extent, volume, bulk, bigness, magnitude, distances, proportions, perpendiculars, plane-surfaces, angles, levels, etc.

An *excess* of this faculty could scarcely work injury to one, unless its activity interfered with business or pursuits in which its function was not required.

Its *deficiency* causes one to be inaccurate in the estimation of proportion, perspective, outlines, and of the *sizes* of the globe, sphere, prism, octagon, triangle, octahedron, hexagon, cylinder, cube, and other geometric figures, while perhaps able to draw and remember their forms.

Facial and Bodily Signs.—The facial sign of the capacity for remembering, judging, and reproducing the size of objects is found in the width or development of the ethmoid bone,—the bone which connects the nose with the forehead. When large, it gives width between the inner terminus of the eyebrows and forms a V-shape on the upper part of the nose, just below and at its junction with the forehead. The faces of all good artists, mechanics, draughtsmen, sculptors, architects, and dress-fitters exhibit this formation.

DESCRIPTION OF SIZE.—The anatomical base of the mental faculty of Size is found in the *width* of the ethmoid bone. It can not be caused by brain development at this point for the reason that the bones and sinuses in this vicinity *fill up the space* which phrenology allots to the "organ" of Size. The following description of this portion of the face discloses the origin of the *width* at this junction:—

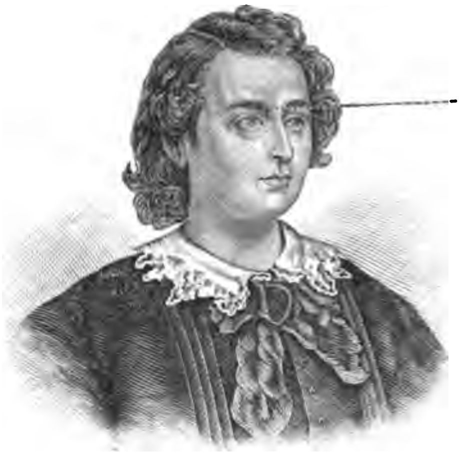

FIG. 92.—ROSALIE BONHEUR. (CELEBRATED PAINTER OF NATURE AND OF ANIMALS.)

Born in France, 1822. Conspicuous facial sign, Size, shown by width of the ethmoid bone. The law of the straight line and curve governs this face. The quality of this subject is very fine; the color-sense of the highest order. The lower part of the face is oval, the lips curved, the hair wavy, Form and Size pre-eminent; all are signs of the artistic nature. Conscience and Firmness are normal. Love of Home, Patriotism, Benevolence, Love of Young, Approbativeness, Friendship, and Alimentiveness are evident; Amativeness only about average; Modesty and Self-esteem well defined. The nose is high, long, almost straight, and shows the signs for Human Nature, Mental Imitation, Analysis, Hope, Ideality, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will large. Language is noticeable, while Form, Size, Order, Locality, Calculation, Observation, Weight, Memory of Events, and artistic judgment and Reason are well defined. Great perseverance and industry added to great talents have produced a grand artist in this subject. Her great merit has met with due recognition. Of her it has been said: "She is not beholden to the Louvre Gallery nor to Poussin; she does but look at the clear and open face of Nature."

On account of the frontal sinuses and of the diploe the external surface of the skull does not by any means exactly represent the internal, but is more smooth and even, and never accurately presents eminences and depressions inversely corresponding to those within. To some extent, however, and only to some, does the external surface of the bones indicate the projections on the surface of the brain. When a certain portion of the latter or a certain group of convolutions are very prominent, the skull in that region will be prominent, and *vice versâ;* but we very seldom find *distinct external elevations* corresponding to individual convolutions. The bones, as well as the sinuses at this portion of the face, are numerous, and any person who will take the trouble to dissect a human skull and brain can soon convince himself that the brain-substance does not cause the *width* at this part, and which is termed an "organ" of the mind by phrenologists. The ethmoid bone contributes to form the base of the cranium, the nose, and the orbits. It has little or no cellular tissue in its composition, except in the christi galli and in the turbinated plates. It is joined to two bones of the cranium, the frontal and sphenoid, and to eleven bones of the face.*

Besides the sinuses and bones situated within this small space the *bulbs* of the *olfactory nerves* here find lodgment, as well as the ophthalmic division of the fifth pair of nerves. The bony ridge, denominated the superciliary ridge, or bones of the eyebrow, so

* Practical Anatomy, Robert Harrison, pp. 393, 584.

completely hides the brain that it is impossible to make any estimate of its size or shape here. So true is this that all physiologists and anatomists have remarked it, and Dr. Dalton, writing upon the peculiarity of the brain-substance, observes:—

> A very extensive portion of the cerebral surface remains concealed in such a manner that it cannot possibly be subjected to examination, viz., the *entire* base of the brain with the *under* surface of the *anterior* and *middle* lobes, the upper surface of the cerebellum, and the inferior surface of the posterior lobe of the cerebrum which covers it, that portion of the cerebellum situated above the medulla oblongata, and the two opposite convoluted surfaces in the fissure of Sylvius where the interior and middle lobes of the cerebrum lie in contact with each other. The whole extent, also, of the cerebral surfaces which are opposed to each other in the great longitudinal fissure throughout its entire length is equally protected by their position and *concealed from external examination*. The *whole* of the *convoluted* surface of the brain must, however, be regarded as of *equal importance* in the *distribution of the mental qualities;* and yet it is evident that not more than one-*third* or one-*quarter* of this surface is so placed that it can be *examined* by external manipulation. It must, furthermore, be recollected that the gray matter of the cerebrum and cerebellum is everywhere convoluted, and that *the convolutions penetrate to various depths* in the substance of the brain. Even if we were able to feel, therefore, the external surface of the brain itself, it would not be the *entire convolutions*, but only their superficial edges, that we should be really able to examine. And yet the amount of gray matter contained in a given space depends quite as much upon the *depth* to which the convolutions penetrate as upon the prominence of their edges. While phrenology, therefore, is partially founded upon acknowledged *physiological facts*, there are yet insurmountable difficulties in the way of its practical application.*

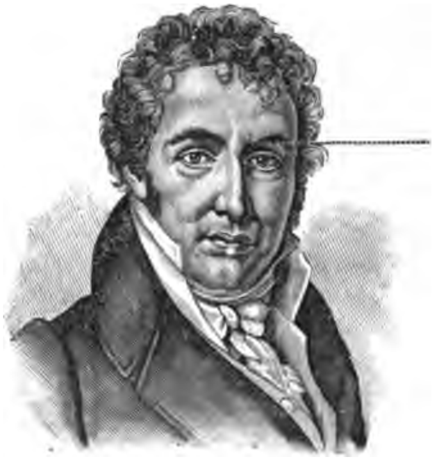

FIG. 93.—LUDOVICO ANTONIO DAVID. (HISTORICAL AND PORTRAIT PAINTER.)

Born in Italy, 1648. Conspicuous facial sign, Size, shown by width of the ethmoid bone just above the sign for Form. The law of the straight line and curve governs this face. Here we behold all of the salient points of the artist,—curves in every feature, and even in the hair the same curvilinear principle is observed. The chin is round and dimpled, the lower jaw curved, the mouth exhibiting a "cupid's bow" in the outline of the upper lip. The domestic and social traits are all well defined, among which Amativeness, Love of Young, Love of Home, Patriotism, Friendship, Mirthfulness, Approbativeness, and Benevolence are very prominent. Color and Sanativeness are conspicuous. In the nose the signs for Mental Imitation, Ideality, Sublimity, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are very pronounced. Form, Size, Observation, and Calculation are excellent. Memory of Events and Intuition are large, while Reason (of the artistic sort) is well developed.

In the preceding paragraphs I have offered the evidence derived from the writings of two of the best-known anatomists, as to the impossibility of judging of the shape and size of the brain-matter by an external examination. More particularly is this impossibility emphasized when we endeavor to find the existence of a mental or cerebral "organ" of Size at the sides of the *ethmoid bone.* The evidence of our senses in dissection, as well as by outward observation, shows that there is nothing but bones and sinuses (little hollow openings which assist the resonance of the voice) at this place. I am quite earnest in my endeavor to prove to the student that this is the case, for, in order to be intelligent in the science of physiognomy, one must be able to trace phenomena to their origin, otherwise the knowledge will be merely surface-knowledge. The protuberances observed about the superciliary ridge are caused by *bony deposition* and by muscular development, as can be proven in the local signs for Weight and Locality.

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* Dalton's Treatise on Human Physiology, p. 429.

Now, having given very good evidence from those who do not accept the phrenological theories of "brain organs," I next offer evidence just as conclusive from the writings of George Combe, one of the *founders* of phrenology. He remarks thus:—

> One part of the brain, however, does sometimes present a difficulty. I refer to a cavity called the frontal sinus. It lies above the nose, and is found between the *external* and *internal* surfaces of the skull. The size of this sinus varies, but recollect that it only interferes with *five organs*—Form, Size, Weight, Individuality (Observation), and Locality.
>
> Again, below the age of twelve it *does not exist*, and, as the five organs before mentioned *are generally very active before that age*, the sinus cannot interfere with our observation of them before that period. The sinus, therefore, presents no *difficulty* in the way of our *discovering the functions of these organs* if we study subjects below twelve years of age. The opponents *conceal* these facts. After this age it appears, gradually enlarges, and after twenty may present some difficulty to the observer.*

In a foot-note he observes:—

> I was the first to maintain that it was impossible for us to determine with exactness the development of *certain convolutions* by the inspection of the external surface of the cranium.

This corroborative evidence from this gentleman and from the others, equally distinguished, is offered not so much to prove phrenology wrong in some of its conclusions as to prove the basic theories of scientific physiognomy right. The reasoning of Mr. Combe is not tenable where he says that "as the frontal sinus does not exist below twelve years of age it cannot interfere with our observation of these five 'organs.'" The truth is that by the absorption of the cellular tissue and the separation of the bony plates the cavities called the frontal sinuses are formed at or about the age of puberty, and this change assists the resonance of the voice as it changes from the fine, soft tones of childhood to the sonorous and deep bass of adult life; and that is all the significance to be attached to this change, except the further fact that complete ossification of the bones of the superciliary ridge and of the ridge of the nose does not take place nor cause their permanent and true form, size, and solidity until the age of puberty, and in some cases not until after that period. Hence it is that we are better able to judge of the size of the practical and mechanical faculties whose local facial signs are situated upon and about the *bones* and muscles of the superciliary ridge, *after* they have become developed by age and matured by the action of the evolutionary process described above. The localities of many of the "perceptive" faculties, as given by phrenologists, are correct. Their idea of ascribing to brain-substance what is palpably a bony or a muscular structure is erroneous. The whole course of the development of the several tissues of bone, brain, and muscle also proves this, and reveals the true origin of the faculties of Size and Form to be in the width of the median portion of the bony structure, recorded in and certified to by the width of the *os frontis* and ethmoid bones of the face.

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*Combe's Lectures on Phrenology, p. 181.

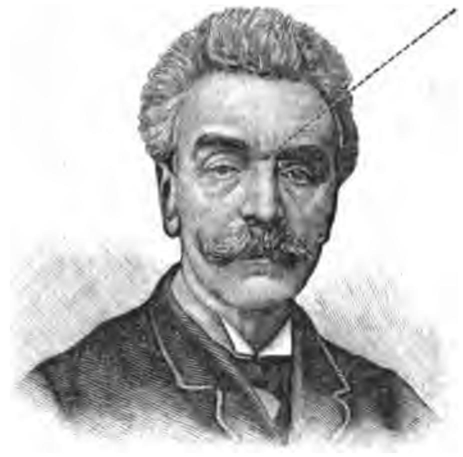

FIG. 94.—JOHN LEO GEROME. (HISTORICAL AND PORTRAIT PAINTER.)

Born in France, 1824. Conspicuous facial sign, Size, shown by great width between the eyes. The law of the straight line and curve governs this physiognomy. The lower division of the face discloses the signs for domesticity and moral power. Firmness, Conscientiousness, Benevolence, Love of Home, Patriotism, Approbativeness, Economy, and Sanativeness are all large. From the form of the eyes and general curvativeness, we know that Love of Young and Amativeness are normal at least. In the nose the signs for artistic capacity are apparent. Mental Imitation, Ideality, Sublimity, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are prominent, while Form, Size, Color, Calculation, Observation, and Locality are of the highest order. Memory of Events, Language, and Intuition are well defined.

The uses and function of the faculty of Size are unlimited and beyond enumeration. In conjunction with Form its application is to every single atom of matter in space and to every object whatsoever in existence. Every thing has form, consequently has magnitude or dimensions. All mental imagery is formed through the agency of these two dominant faculties. Plans for conducting a campaign or a law case, or for carrying on a business, are aided by the faculty of shaping. Every writer upon any subject whatever relies upon these two geometrical qualities for carrying out his plans. All architects, artists, sculptors, dress-makers, carpenters, shoe-makers, and mechanics of every sort depend upon these traits for the basis of all they construct. Their action is universal, and illimitable. In combination with Constructiveness they enter largely into the works of fiction, of poetry, and of plays. The writings of the poets abound in images of all sorts, and some of them, as, for example, Milton and Dante, portray the figures of monsters of horrid mien and gigantic size in a manner most vivid and graphic. In the physiognomies of these writers the signs for Size, Form, Constructiveness, Credenciveness, and Imagination are very large. So also we find the same development in Bunyan's face, as well as in Dickens'. Taine describes Dickens' character most admirably, and quite in accord with the principles of scientific physiognomy. He shows that the power to form or visualize his characters is one of his strongest traits, and he thus describes him. He says:—

> There is a painter in him, and an English painter. Never surely did a mind *figure* to itself with more exact detail or greater force all the parts and tints of a picture. If he is describing a home, he will draw it with geometrical clearness; he will put all his colors in relief; discover a face and thought in the shutters and the spouts! He will make a sort of human being out of the home, grimacing and forcible, which attracts our attention, and which we shall never forget.*

A scientific delineation of Dickens' physiognomy shows how accurately Taine paints Dickens' portrait *from his works.* This is a very subtle and philosophic method, and one which requires the best intellect, aided by the best intuition.

The capacity for calling up at will the size and form of any object once seen is the active memory of the twin faculties of Form and Size. The ability to bring up colors in all their vividness belongs to the memory of color; and so of every faculty. Each has a memory peculiar to itself, and this could not be unless every faculty was a force capable of sending out toward persons and objects a *palpable living power* from the human and animal mind. It meets with a response, showing that the special faculty in activity has thrown outward toward others in contiguity a positive, active, intelligent force, which, like lightning, is unseen, yet most decidedly felt, and by sensitive more keenly than by coarse-grained men and animals. The theory is that coarse people—those on a low mental grade—are more sensitive to the stronger and lower classes of passions, such as revenge, hatred, malice, force, and resistance, than they are to the higher and nobler traits of love, sympathy, patriotism, and sublimity; the lower passions or forces being more powerful in their action, while the higher ones send out a more subtle force, and can be better sensed and appreciated by the finer and higher order of beings.

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* History of English Literature, H. A. Taine, pp. 585–589.

The ideas of relative size change with age and with practice in judging of dimensions, by noting discrepancies in goods or objects handled. Size in combination with Form, Weight, and Reason give ability for geometrical studies, while Size, Form, Constructiveness, Ideality, and Mental Imitation give the talent for novel-writing, and, with Music and Time added, ability for writing poetry. Add to these large Love of Young, and capacity for writing stories and poetry for children will be developed.

Form, Size, and Weight assist the sculptor, the dentist, and the engraver. They must all have the same combination to enable them to imitate forms, and also to assist in guaging the *force of the blow* of the chisel and graver. Engravers must also have a good color-sense, else they will be deficient in judging of the proper shading of their pictures. I once employed a very superior engraver, but he lacked color, being of a very light complexion, and having light, sandy hair. It was with the greatest difficulty that I could get him to put sufficient black color into my pictures; but in Size and Form he excelled, and engraved portraits (the most difficult branch of the art) with unerring fidelity and precision.

The botanist, naturalist, chemist, physician, and explorer require the faculty of Size. It is found large in the physiognomies of Stanley, Livingstone, Fremont, Marco Polo, Captain Cook, Sir Joseph Banks, De Soto, and Hendrick Hudson, Linnæus, Descartes, Sir Astley Cooper, Dr. Pasteur, John Dalton, Liebig, Huyghens, Sir Isaac Newton, Blaise Pascal, Torricelli, Copernicus, and Paracelsus. Minds such as these men possessed had the power of visualizing the objects and combinations of forms which they dealt with, and were thus enabled to picture in the "mind's eye" the inventions and discoveries made and scenes visited and explored. In Galton's work on "Inquiries into Human Faculty," the author devotes great space to the investigation of what he terms "mental imagery," the capacity for which depends upon the faculties of Form and Size being large, although I believe he nowhere speaks of this as the origin and base of what he terms "visualizing." Physiognomy proves that where these two faculties are large, the ability to reproduce mentally shapes and outlines is much greater than where they are not so well developed. The following very just remarks by Mr. Galton are appropriate to the subject, and I quote them to show his understanding of the mental aspect of Size and Form. He observes thus:—

> There can, however, be no doubt as to the utility of the visualizing faculty when it is duly subordinated to the higher intellectual operations.

A visual image is the most perfect form of mental representation, wherever the shape, position, and relations of objects in space are concerned. It is of importance in every handicraft and profession where design is acquired. The best workmen are those who visualize the whole of what they propose to do before they take a tool in their hands. The village smith and the carpenter who are employed on odd jobs employ it no less for their work than the mechanician, the engineer, and the architect. The lady's maid who arranges a new dress requires it for the same reason as the decorator employed on a palace or the agent who lays out great estates. Strategists, artists of all denominations, physicists who contrive new experiments, and, in short, all who do not follow routine have need of it. The pleasure its use can afford is immense. I have many correspondents who say that the delight of recalling beautiful scenery and great works of art is the highest that they know; they carry *whole picture-galleries in their minds.* Our bookish and wordy education tends to repress this valuable gift of Nature. A faculty that is of importance in all technical and artistic occupations, that gives accuracy to our perceptions and justness to our generalizations, is starved out by lazy disuse, instead of being cultivated in such a way as will, on the whole, bring the best return.*

The practice in early life of fashioning objects with tools, and of drawing, undoubtedly develops the faculty of Size as well as of Form, and men who are put at books early in life, and deprived of all mechanical employments, suffer deterioration of these faculties. Then, too, the mental action of these faculties, as well as the intensity of their power, changes with advancing age and change of pursuits. In childhood, if the observing faculties are keen, and Form, Size, and Locality very decided, the outlines and location of every thing observed will be remembered, and nothing, however minute, will escape the sight of one who is gifted in the observing or practical traits; but as age advances, and brings with it a development of the reasoning powers, the observing faculties assume a partially *introspective* action, and the mind works more *interiorly*, hence sees fewer material objects, and the individual will pass by, unnoticed, things which formerly would have attracted his attention and have been photographed upon his memory in all the accuracy of their form, size, and position in relation to other near objects.

The antagonism between the power for visualizing external material objects and the capacity for abstract memory has been noted by Mr. Galton, and on this topic he says:—

My own conclusion is, that an over-ready perception of sharp mental pictures is antagonistic to the acquirement of habits of highly-generalized and abstract thought, especially when the steps of reasoning are carried on by words as symbols, and that if the faculty of seeing the pictures was ever possessed by men who *think hard* it is very apt to be lost by disuse. The highest minds are those in which it is *not lost*, but subordinated, and is ready for use on suitable occasions. I am, however, bound to say that the missing faculty seems to be replaced so serviceably by other modes of conception—chiefly, I believe, connected with the incipient motor sense, not of the eyeballs only, but of the *muscles generally*—that men who declare themselves deficient in the power of seeing mental pictures can, nevertheless, give life-like descriptions of what they have seen, and can otherwise express themselves as if they were gifted with a vivid *visual imagination*. They can also become painters of the rank of Royal Academicians. *

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* Inquiries into Human Faculties, Francis Galton, p. 113.

When I read thoughts such as the above, which come so closely to scientific analysis of character and then just miss it through lack of the knowledge of scientific physiognomy, I grieve that the writer has not that light by which to elucidate more clearly the differences existing between the two classes of persons of which he is writing. His first paragraph relates to mechanical men,—men with *square*, *bony frames*, who are practical, and seldom develop into abstract thinkers; never, certainly, to any great extent; hence, they dwell largely all their lives in the region of the practical, and visualize the forms of objects, and deal with them professionally, as in the mechanic arts; while the class alluded to in the second paragraph are *muscular*, *round* men, who *imagine* forms instead of *remembering* those once seen, and these last really do use the *muscular sense* in order to reproduce their images mentally, and can become painters of high degree; and, as they are gifted in imagination chiefly by reason of the dominance of the muscular system, so they are able by voice and brush to reproduce vocally and on canvas the forms which they, by means of a vivid imagination, see before them. This class of persons idealize forms, whereas the mechanical class *reproduce with exactness* the forms and shapes which they have really beheld. When gifted metaphysicians, like Mr. Galton, come to understand the principles of scientific physiognomy, they will be able to aid the advancement of science in a wonderful manner. Many gifted writers show by their writings that they are grand physiognomists, only wanting the knowledge of the laws and principles of physiognomy to enable them to draw the external features and peculiarities of their characters in accordance with the mental analysis which they make of them. George Eliot, Dickens, Taine, and Thackeray are all intuitive, so also was Shakespeare, and came very near to being scientific expounders of character. The faculty of Size is pre-eminent in all of them, and to it they are largely indebted for their skillful delineations of their characters, as well as for the plan of their books.

OBSERVATION.

Definition.—"The act or power of observing or taking notice; the act of seeing or of fixing the mind upon anything; capacity for close attention; adherence in practice." (Webster.)

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* *Ibid.*, p. 88.

The love and capacity for examining objects which attract the attention, such as natural phenomena, machinery, pictures, books. plays, spectacles, etc. It is the faculty which creates a desire for looking at what transpires about us, and is the basis of all material knowledge. Mechanicians, travelers, artists, linguists, and scientists, etc., depend greatly upon its development for their knowledge.

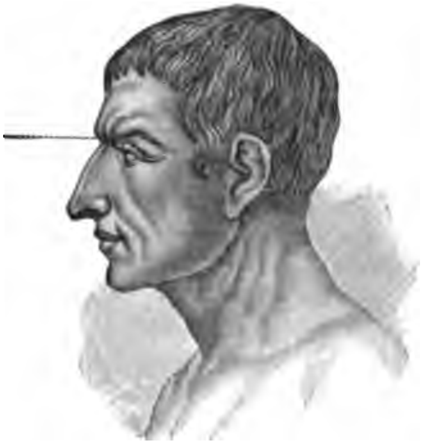

FIG. 95.—MARCUS TULLIUS CICERO. (ORATOR, STATESMAN, AND JURIST.)

Born in Arpinum, 106 B.C. Conspicuous facial sign, Observation, shown by development of the muscles of the inner terminus of the eyebrows, caused by approximating them while engaged in closely scrutinizing objects. The law of the curve governs this face. The size of the features and their proportions announce an ambitious and able mind. In the chin are seen the signs for Firmness, Patriotism, Benevolence, and Love of Home well defined. Alimentiveness and Bibativeness are less than average. In the upper lip Amativeness, Love of Young, and Mirthfulness are apparent; Self-esteem of only a moderate degree. The size of the mouth and fullness of the lips and eyes announce linguistic and oratorical ability. The nose is very high above the plane of the face, and is long, bony, and convex in its outline. At the point the signs for Ideality, Sublimity, Mental Imitation, Human Nature, Analysis, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are very pronounced. The region about the eyes is remarkable in appearance. Credenciveness is small. Locality and Observation are equally and uncommonly developed. Form, Size, Calculation, Weight, Language, Order, Time, Reason, and Intuition are pre-eminent. The neck is massive and statuesque. The nose, by its size, indicates large Pneumativeness. His color was dense, and this gave force and intensity to all his faculties. The physiognomy altogether announces a mental colossus. History corroborates this facial delineation.

An *excess* of Observation can scarcely be harmful, yet if one allows Observation to *end* in *looking merely*, without reflecting or acting upon knowledge thus gained, excessive Observation would be detrimental. To remedy such want of balance, the facts already observed should be put to some useful purpose before searching for other facts or phenomena.

Its *deficiency* may be remedied by patient investigation of all sorts of objects, by prolonged scrutiny, and an endeavor to *fix* the *attention* and *thought* upon the form, size, color, quality, and proportions of objects, and to note carefully the particulars and details of objects and occurrences coming under one's observation.

Facial and Bodily Signs.—The most conspicuous facial sign of the faculty of Observation is situated in the middle of the lower part of the forehead, between the inner terminus of the eyebrows and above the root of the nose; when large, filling out the *muscles* at this part and causing the eyebrows to draw down in order to facilitate more accurate vision.

DESCRIPTION OF OBSERVATION.—The location of the facial sign for Observation is one proof of its *muscular origin.* Another proof is had in the fact that all observation is made with the eye, which is the facial representative of the muscular system. That this faculty is represented in the brain, as well as all other parts of the muscular system, is undoubted, but the idea that brain-matter causes the protuberance seen in adults after long and protracted scrutiny of objects is not tenable. In childhood the muscles of the face at this place are not greatly developed, but, on the contrary, they are scarcely noticeable. They become perceptible only after years of close *observation* of the things observed. Children, it is true, look and gaze with curious eyes upon all that attracts their attention, but they *reflect* very little, if any, in early life upon observations thus made. And many go through life *looking*, without any very deep impression being made upon the mind by objects observed and scenes visited. The mere fact of being able to *look* at an object does not involve knowledge of the object perceived. "The eye sees what it brings the power to see," and if one has not the capacity for fixed and patient attention he fails to take in the *full* meaning and import of what he beholds. Because children look and ask a multitude of questions about what they see is no proof that they observe in the highest meaning of the term. Their minds are comparatively *empty*, and they look and question for *entertainment* mainly, and not always for the purpose of acquiring knowledge; hence, the *facial record* of Observation does not appear very large until after the habit of accurate and *thoughtful* observation has been formed.

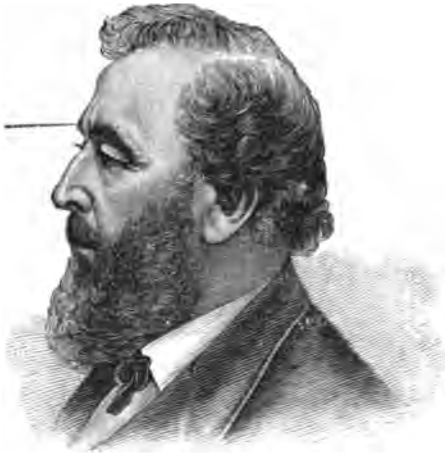

FIG. 96.—BAYARD TAYLOR. (PRINTER, EDITOR, DIPLOMAT, TRAVELER, AND AUTHOR.)

Born in Pennsylvania, 1825. Principal facial sign, Observation, shown by development of the muscle adjoining the sign for Locality. The law of the curve and sphere governs this physiognomy. The parts of the face nearest the eyes reveal large Observation and Locality; the results of these powers have been given to the world in many able books of travel by this gifted writer. The domestic nature is fully developed. The luxuriance of the intellect assures us that it must have a rich basis upon which to build so elegant a superstructure. In the nose, which is aquiline, are all the signs of literary power. Hope, Analysis, Human Nature, Sublimity, Ideality, Acquisitiveness, and Constructiveness are conspicuous. Veneration and Executiveness are very marked, while Self-will is manifest. Credenciveness and Prescience are only average. Locality, Observation, Weight, Order, Language, Music, and Time are well defined. Memory of Events, Reason, and Intuition are uncommonly large. A great deal of mental force is apparent in the outline of the nose, and this gave power and emphasis to all his efforts. Color was exceedingly well developed, and was the basis of order and enthusiasm, and permeated his descriptions, which were glowing, vivid, and lifelike.

Persons with excessive Credenciveness never develop this sign, and the portion of the space between the inner terminus of the eyebrows and the eye is wide and comparatively flat, as seen in the Chinese and other superstitious races and in all superstitious persons. In these cases it is Credenciveness *vs.* Observation, or belief without evidence. Many of the signs of character which cluster about the eyes are mainly representative of the muscular system, and these signs are caused by protracted use of the eyes and other parts of the muscular system, as, for example, in the use of the sense of Weight, as in balancing, by sailors and acrobats; in wielding the hammer, as by blacksmiths, sculptors, mechanicians, dentists, etc. The use of the muscles in these directions, in combination with the eyes which guide these several acts, causes the muscles of the face, denominated the *pyramidalis nasi* and *corrugator supercilii*, to enlarge, and in adult life they sometimes appear like a small wen. This sign is noticed only in the faces of the most continuously observant and practical persons. It is large in the physiognomies of Arago, Buffon, Michael Angelo, Fulton, Charles Darwin, James Watt, Professor Morse, George Stephenson, Elihu Burritt, John and Joseph Le Conte, Professor Tyndall, Professor Kirchoff, Boerhaave, Joseph Black, and the Herschels. In all these persons the eyebrows will be found drawn down close to the eyeball; and in those in whom the bony system predominates additional assistance is rendered in the way of accurate vision by the projection of the bony superciliary ridge.

The base of the faculty of Observation may be safely ascribed to the muscular system, assisted by the optic nerves. The peculiarities of structure in the two diverse classes of persons, the observing and the non-observing, will confirm this statement. Credencive people are great *lookers*, but it does not follow that they observe; that is to say, they do not observe closely, keenly, and *accurately*, for the reason that they are not built upon an observing plan; their eyes are too large, too wide-open for instant and accurate sight, and they have no bony superciliary ridge to shut off the superfluous rays, and thus enable them to instantly *focus* their vision and concentrate all their visual and mental observation upon one minute or infinitesimal atom. Hence it is that the one who is able to focus his vision instantly is capable of more practical work in the mechanic arts and in many branches of science than those whose eyes are too large and not shaded by a projecting bony brow.

The uses of Observation are as many as there are things to observe. It is adapted to the recognition of the divisibility of matter, substance, and space; to the peculiarities of form and number; to mechanics, mathematics, and geometry. In short, it is a *basic faculty* upon which many other faculties depend for assistance to carry forward their peculiar operations. Observation gives the capacity to comprehend everything in Nature as a separate and distinct entity, and is required in literature as well as in the mechanic arts. Navigators and discoverers find it most useful, as it enables them to retain an accurate memory of the forms, colors, and related positions of scenes visited and countries explored. It is useful to the linguist, and aids him in the acquirement of language, by enabling the student to comprehend the separate and individual parts of speech, as nouns, verbs, adjectives, and interjections, and shows him the relationship they bear to each other in combination. A man who possesses large Observation never loses a moment's time, for, place him where you will he employs himself with *storing* his mind with whatever surrounds him, and when needed he extracts from the photographic studio in his mind the forms, colors, relations, and positions of all the objects which he has laid away for use. This looking faculty is a fine one for a traveler to possess. A real good looker will bring back from a short excursion more accurate information than a mere *gazer* will gather while making the "grand tour."

Children should not only be encouraged to look at all that attracts their attention, but should be *trained to describe what they have seen*, thus assisting and testing the accuracy of their observations. Their questions should be answered with reason and truth, and, unless they talk for the sake of listening to their own voices, should not be suppressed, except in cases where they are making themselves conspicuous at the expense of politeness and the comfort of those present.

Historians need to be good observers of what transpires in government and the affairs of the nation, as well as lovers of truthful statement, and observation of this sort should characterize all who undertake to treat of such matters for the edification of posterity by writing records. The difference between the historical writings of Voltaire and those of John William Draper, for example, illustrates and corroborates the principles of scientific physiognomy, as exhibited by their physiognomies. Voltaire's face shows a lack of keen and accurate observation, but sparkles with wit and imagination. His historical works reflect all the beauties of his face in youth; they are brilliant and entertaining, but inaccurate; while Draper's histories and his other works are like his face—truthful, orderly, solid, accurate, and highly interesting, as any one will admit who has read his "History of the United States," "The Intellectual Development of Europe," or the "Conflict between Science and Religion," any one of which is nearly as charming and delightful in style and more accurate in detail than any of Voltaire's historical works. Voltaire's histories of Charles XII and Peter the Great, although brilliant and entertaining, are not held up as models of truth and exactness.

In analyzing the grade or quality of Observation found in different persons, great attention must be paid to the peculiar expression of the eye. In the portraits of all the great naturalists, discoverers, scientists, mechanicians, and inventors the eyes seem to be looking *fixedly* and *intelligently at some object;* there is a *knowing* look in them which the painter and the camera have happily caught. The habit of fixed and intelligent attention which these classes of persons have practiced for years is transferred to their physiognomy, and is most noticeable in and about the eye and eyebrow, more particularly in the bright, alert, keen, intelligent expression of the eye. This is a most remarkable circumstance, and one which explains a great deal. The face is connected with all the nerves of the special senses as well as with the nerves leading to all of the important visceral structures, hence is capable of *expressing* and *expounding* all the permanent as well as temporary feelings and conditions existing or active at every period, as well as those which have existed for any considerable length of time. Now, in the physiognomies of those classes that do not depend upon accurate observation for the foundation of their pursuits no such expression is visible. If we compare the portraits and countenances of the former classes with the faces and portraits of singers, instrumentalists, poets, athletes, acrobats, elocutionists, and commercialists, generally, we shall find that the earnest, penetrating, thoughtful gaze of the former is absent in the latter. The explanation is not far to seek. The most observing classes are *obliged* by the very nature of their pursuits (which is a search after and an application of the laws of Nature) to be as nearly true to Nature in their actions and descriptions as the human senses will permit, for the senses are the avenues through which the world comes into the human mind. The more observation a man possesses, the more of the world will he *conquer and own.* A blind man is almost shut out from the world of form, and entirely so from a knowledge of color. The deaf lose entirely the harmonies of music and the power which vocal expression brings. A man whose practical and observing faculties are greatly deficient has less of this world's knowledge than he who has them in a large measure; he is consequently thrown back upon what he *hears* instead of what may be seen and known by accurate sight. This class of persons are bound to become superstitious and believers of all sorts of fantastic dogmas, while the observant person uses his God-given senses and relies upon his power for seeing and judging for himself. The only way which we have in this material and mundane sphere of becoming cognizant of truths as they exist and appear is by the use of our senses primarily and of our reason and conscientiousness finally. It is rational to infer that the stronger and more perfect these faculties are, the more perfect will be our knowledge of truths. It becomes our duty, then, under this logic, to endeavor to build up our bodies by an application of the best principles of hygiene, for, the more perfect and normal the body, the better equipped will it be for the work of life. The mediæval method of degrading the body by filth, fasting, fear, and flagellation, in order to create a saint or seer, will not conduce to a noble manhood and womanhood, suited to the work of redeeming and civilizing the world; and as *useful* men and women are needed for this purpose, and as visionaries are incapable of aiding these efforts, we must therefore reverse the old-time methods and strive to improve the race by *design and law.*

The cultivation of the faculty of Observation is one of the best steps toward a knowledge of truth. The habit of accurate and patient observation cannot be overestimated. The celebrated Newton once remarked, "If I have made any discoveries, it was owing more to patient attention than to any other talent." The great minds of all ages bear testimony to the fact that the capacity for close and continual observation is the main factor in the lives of the great geniuses that have arisen and dazzled the world. Every town and hamlet in the country possesses a *lazy genius*, who imagines himself destined to astound the world by the greatness of his natural powers, and yet who is never heard of outside of a limited circle, for the reason that he lacks *patient observation* or industry. There are scores of "mute, inglorious Miltons" of whom the world never hears.

In the animal kingdom it is found that those that possess the best power of attention are the most teachable. The elephant, with his small, accurate, mechanical eye, can see and pick up with his proboscis a cambric needle.

> Even butterflies have been tamed and taught to come at man's call; they also possess most decided observation of colors, as do bees also, with great taste for bright ones.*

And with the talent of close observation used in way-finding by beasts and birds no man of the highest powers can compare. The "homing" faculty of the pigeon is far better developed in it than the sense of locality is in man, while the observation of dogs leads them to understand not only the meaning of man's language in phrases, and their own name when called, but they are observant of and understand

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*Mind in the Lower Animals, J. L. Lindsay, M.D., vol. 1, p. 61.

> Looks, facial expression, countenance-changes, the character of the eye, actions or movements, with gestures and gesticulations; natural voice-sounds and their varied tones or intonations; artificial, musical, and other sounds, such as those made upon or by the bell-gong, horn, whistle, pipe, bagpipe, lute, drum, or bugle. They understand comments and remarks when they themselves are spoken of, also proper names of persons, places, and things; signals of eye, look, action, including those which are called secret, which are preconcerted by and between and understood only by the animal and its master.*

I might fill a volume devoted to illustrations of animal observation, proving that in common with man the highest types of each class are those which possess superior powers of Observation and capacity for continued attention.

The cultivation of this faculty has been commenced on a scientific basis in the past few years by the kindergarten system of object-teaching, which not only instructs children in the knowledge of geometrical forms, but also assists the color-sense by a use of all the chromatic hues. The latter feature is most useful and should be taught to boys especially, inasmuch as they inherit less of the color-sense than females, owing, doubtless, to the fact that they make little use of color in the majority of masculine pursuits, also to that other and sad fact—the great use of tobacco by men, which vitiates the action of the glands to that degree that the colors are not eliminated from the food nor taken into the system by the lungs as readily as by those who are not the victims of this vice. This inferiority of the color-sense has become a distinctively sex-type, and is transmitted from father to son rather than from father to daughter,—so surely do our deeds follow us and live after us. We are immortal in more senses than one.

Observation has its own especial memory and recollects best the class of objects which most attract the attention. These vary in different individuals, as, for example, one in witnessing a scientific experiment will be impressed with certain parts and be able to explain them clearly, while another will be attracted by other features of the experiment and describe them best.

MEMORY OF EVENTS.

"Why should I write this down that's riveted,
Screwed to my memory?"—SHAKESPEARE.

Definition.—The capacity for remembering historical, political. social, domestic, and all passing events; adapted to the memorizing of news of all sorts, such as public measures, scientific theories, experiments, and neighborhood gossip, facts, occurrences, and actions, and of events as they transpire from time to time.

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* Mind in the Lower Animals, J. L. Lindsay, M.D., vol. i, pp. 346, 347.

An *excess* need not be guarded against. A man cannot know too much, provided his knowledge be accurate and he can apply it practically.

A *deficiency* causes one to be unready, unintelligent, and unreliable as to facts and occurrences.

Facial and Bodily Signs.—A general fullness of the upper and middle portions of the forehead is the facial record of large Memory of Events, together with a broad and vigorous muscular and visceral organization. The last are secondary and subordinate signs, but necessary as establishing a *sure foundation* for that strength and vigor which creates and sustains sound and strong mental action.

DESCRIPTION OF MEMORY.—Memory of Events is a portion of the general memory and is devoted exclusively to the accumulation of that class of knowledge which is named in the above definition. Each faculty and sense has its *own special memory*, and each depends for its power upon, first, the natural or inherited quality, and, secondly, upon the normal, healthful, and vigorous condition of the body. There is no *special faculty* devoted to Memory. The ancient metaphysicians treated the Memory of Events as if it were the *entire* memory, not taking into account the sense-memories of sight, sound, taste, scent, and sensation, but always referred to "Memory" as if it were a single and complete faculty and seated and centred in the brain, where, indeed, the phrenologists finally located every *single, individual power* of the mind. It is the mission of scientific physiognomy, aided by evolution, anatomy, physiology, and cognate sciences, to unload this poor, overtaxed organ, and restore to its own rightful domain each one of the misplaced functions and faculties, and so relieve the overburdened skull of the weight of that which was never in it, except in the fancy of half-fledged scientists.

I shall now commence an analysis of the Memory devoted to the acquisition of historical knowledge,—that is to say, of events as they transpire, including in this comprehensive term all the current and passing events and occurrences of every-day life, leaving until later the discussion of the other departments of Memory, such as the memories of scent, form, size, color, words, tones, etc.

The automatic action of Memory of all the intellectual faculties shows it to be related to the muscular as well as to the nervous systems, for muscles exhibit automatism and nerves periodic activity, after exercise of the muscles and nerves in any given direction. Individuals who have been good skaters or piano-players in youth have been able, after years of abstention from these exercises, to resume them with slight effort. This result is due to the *stored-up memory of the automatic action of the muscles* and to the periodic response of the nerves involved, for muscles once trained to a particular work retain the memory of the movements in their elements, and, when these elements are exhausted and replaced by new tissue derived from nutrition, they are replaced in *precisely* the *same form* as those which had become exhausted by the general and regular daily waste of the bodily elements. When Memory begins to fail, either by reason of old age or by disease, it fails in the inverse of its development. The intellectual faculties weaken first, inasmuch as they were the last to be evolved, and the sentiments,—domestic and social,—those depending upon the development of the visceral organs, which are first exhibited, such as, for example, Amativeness, Love of Young, Friendship, Benevolence, etc., fail last. On this point Mr. Ribot throws some light. He observes thus:—

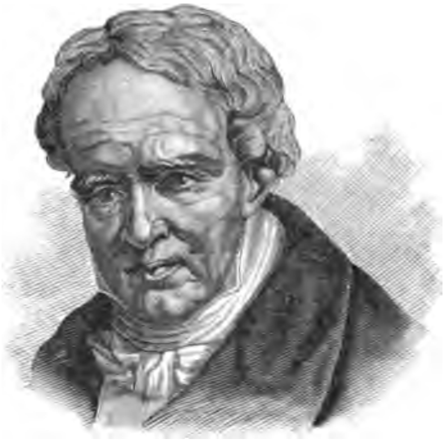

FIG. 97.—FREDERICK HENRY ALEXANDER, BARON VON HUMBOLDT. (TRAVELER, AUTHOR, SCIENTIST.)

Born in Germany, 1769. Conspicuous facial sign, Memory of Events, shown by fullness of the upper part of the forehead. The law of the straight line, curve, and sphere governs this face. It rarely falls to the lot of the physiognomist to delineate so splendid a countenance. The mouth, chin, nose, eyes, eyebrows, and forehead are all remarkable in size, outline, and in detail. The chin and mouth express the most amiable and benevolent feeling. The chin by its width denotes Conscientiousness,—by its length, Firmness. The dimple indicates a love of the beautiful in the opposite sex and a generous nature. The signs for Love of Home and Patriotism are large, so also are the facial representatives of Benevolence, Approbativeness, Amativeness, Love of Young, Alimentiveness, Mirthfulness, Friendship, Sanativeness, Color, and Modesty. In the nose Sublimity, Ideality, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are conspicuous. Observation, Language, Form, Size, and Locality are most apparent, while Memory of Events, Reason, and Intuition are of the highest grade and power. This face gives us an idea of what humanity might attain to were high-breeding of the human race attempted scientifically.

It has been noticed by the best observers that the *affectional faculties* are extinguished far more slowly than the intellectual. It may at first seem strange that states so vague as those of feeling and sentiment should be more stable than ideas and intellectual states in general. But reflection shows that the *feelings* are the deepest, the *inmost*, the most persistent features of our mental constitution, whereas the intelligence is something acquired and, as it were, *external* to us. Considered in their origin, aside from any refined and complex forms they may assume, they are the *direct* and *permanent experience* of our organism. *The viscera, muscles, bones,—every tissue of our bodies contributes its share toward their formation.*

What are we but our feelings and sentiments? To forget them is to forget ourselves. Hence amnesia of the feelings must naturally occur only at a period when *disorganization* has gone so far that the *personality* begins to break up. It has been observed that idiots often have no memory save for adjectives. The idea of quality is the most stable because it is the one *first acquired*, and because it is the basis of our most complex conceptions.*

Now, the parts of the organism involved chiefly in the reception of the knowledge of passing events are the eye and ear, with some assistance from the other sense-memories, as the sense of scent, taste, and touch, for example. In *seeing* what transpires and in *listening* to what is going on the ears and eyes are most active, and convey to their representative fibres in the brain the knowledge received, and here it is registered in a more or less permanent manner, depending, for the strength of the impression which it makes, upon the health and general vigor of the entire system, or upon the peculiar character of the natural or inherited power of this particular department of Memory. Some persons inherit a phenomenal memory, and, like other faculties, it becomes permanent and they are able to transmit it to their offspring, like the taste for music or ability to construct or to paint.

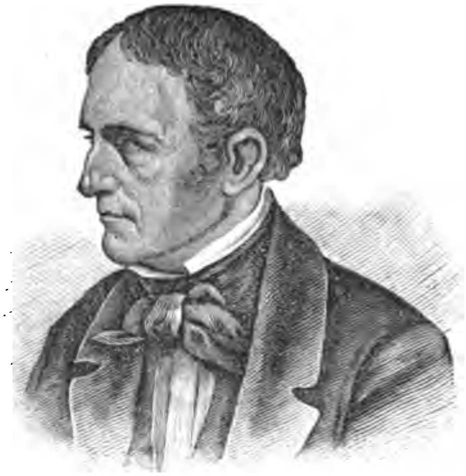

FIG. 98.—WILLIAM HICKLING PRESCOTT.
(CELEBRATED LINGUIST AND HISTORIAN.)

Born in Massachusetts, 1796. Principal facial sign, Memory of Events, shown by width and general development of the upper part of the forehead. The law of the curve and sphere governs this face. In the accompanying physiognomy we have the record of a colossal intellect. The size and form of the nose, without even a glance at the capacious forehead, reveal its power. The domestic and moral traits are all normally developed. Firmness, Conscientiousness, Alimentiveness, Patriotism, Benevolence, Love of Home, Mirthfulness, Love of Young, and Self-esteem are well defined. The point of the nose stands high above the plane of the face, showing Human Nature to be large. The signs for Sublimity, Ideality, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are uncommonly large. Language, Observation, Prescience, Credenciveness, Calculation, Form, Size, Order, Time, Locality, Memory of Events, Reason, and Intuition are very conspicuous. This mind, like that of Humboldt, was an immense structure. Mr. Prescott was obliged to push his memory to its utmost by reason of his loss of sight, and, as exercise increases capacity, so his Memory of Events acquired a phenomenal power.

Where the Memory of Events is weak it can be strengthened by *toning up the physical system*, and by slowly, carefully, and thoroughly committing to memory by constant repetition or by reading attentively such selections as may be desired. This method is the best one for this purpose. It exceeds all the so-called systems of mnemonics in vogue, and as there is no royal road to learning, so there is no easy flower-strewn path to the building of a good memory; yet it can be done,—easier, it is true, in early life, before the mind has become engrossed with a great variety of subjects.

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* Diseases of the Memory, T. H. Ribot (Humboldt Library), pp. 28–39.

Individuals in speaking of Memory are perhaps more inexact and confusing than when speaking of any other faculty. One says, for example, "Oh, I have such a poor memory," and then sits down to the piano and astonishes his listeners by the display of his musical memory. Another says, "I have a very excellent memory," and shows uncommon memory for language, yet soon discloses the greatest ignorance of localities. These and similar occurrences go to prove that Memory is as varied and numerous in its manifestations as there are faculties to be affected *by its action*. One may possess large verbal memory and very little memory of color. Another may display intense love for and memory of color and not of locality. Another may exhibit large memory of size and form and scarcely any of color; all of which proves that each faculty and every system of the body has *its own peculiar memory*. Memory of Events is large in historians, editors, literates, descriptive writers, orators, statesmen, and politicians. The portraits of Victor Hugo, Dean Swift, Prescott, and Gibbon, historians; Gladstone, statesman; as well as the physiognomies of Daniel Webster, Baron von Humboldt, Julius Cæsar, the Scaligers, Mezzofanti, Richard Porson, and Elihu Burritt, the "learned blacksmith," exhibit large Memory of Events, while Porson, Burritt, Mezzofanti, and Scaliger possessed also marvelous verbal memories and became renowned as linguists.

The strongest and most primitive memory in man is the Memory of *Scent* This is the *first sense* used, for as the child enters the world the atmosphere rushes through the nostrils and inflates the lungs; hence *scenting* air is his first act. All experience attests that the primitive functions of life, those first exercised, are the most permanent and abiding; hence it is that *drinking*, being the first gustatory act, becomes a more decided taste than eating, and is, in fact, a more necessary function than eating. Man could live a life-time upon milk or other nourishing fluids, but could not exist long upon merely solid foods without water or other liquids.

This primitive act of drinking shows why it is more difficult in adult life to break up the habit of indulging in drinks such as tea, coffee, or stimulants, than it is to dispense with certain solid foods; whereas, to leave off any particular article of solid food is comparatively easy. Abstaining from meat is not at all difficult, although it is in a sense a very great stimulant. The diet has a most decided effect upon the Memory of Events, as well as upon verbal memory. Exhaustion through lack of food or through sickness has been known to permanently impair and sometimes to destroy this department of Memory. Sir Henry Holland relates his own experience thus:—

> I descended on the same day two very deep mines in the Hartz Mountains, remaining some hours under ground in each. While in the second mine, and exhausted both from fatigue and inanition, I felt the utter impossibility of talking longer with the German inspector who accompanied me. Every German word and phrase deserted my recollection, and it was not until I had taken food and wine and been some time at rest that I regained them again.*

Psychologists are beginning to understand the complex and varied powers of Memory and have learned that accidents and illness, as in the case of insanity, afford the richest sources for discerning the action of the several memories. Ribot recites the following case of a gentleman, who,

> Having received a blow on the head, lost all he ever knew of Greek, his memory appearing in other respects to be intact. This loss of languages acquired by study has often been noted as a result of sundry fevers. So as regards music. A child having received a blow on the head was unconscious for three days. On coming to himself he had forgotten all the music he had learned. Nothing else was lost.†

These examples should teach parents not to strike children upon the head nor "box their ears" in punishment for offenses. There are other modes of punishment more in accord with sense and humanity.

The evidence of the best writers on mind points to the fact that memory and nutrition are in direct relation. Ribot, in his work on "Diseases of the Memory," remarks that "Memory is directly dependent on nutrition." The physique of many of the most eminent English jurists illustrates this principle. Examine, for example, the portraits of Earl Eldon, Lord Thurlow, Lord Mansfield, Earl Shaftesbury, Lord de Grey, Matthew Hale, Edward Hyde, Earl of Clarendon, and they will be found to exhibit stout, well-nourished bodies, and the sign for Memory of Events coexistent. The same is true of all eminent statesmen, judges, and lawyers, as well as of editors; they must have and do possess the strongest memory for facts, incidents, occurrences, etc. The complex derivation of this branch of memory (being in its origin both nervous, visceral, and muscular) gives the individual power to remember events of which the visual organs—the eyes—take cognizance. If the region about the eye is well developed it gives great practical inclinations to the character, in all of which the eyes assist. In *listening* to news the *ear* and auditory nerves are concerned, and thus this department of Memory is indebted to the nervous system and cerebral connections, as well as to the muscular powers of these organs. Fatigue, hunger, and the use of narcotics and stimulants are fatal to Memory. The use of tobacco impairs the memory of color, and narcotics, such as hasheesh, opium, and bromide of potassium, injure Memory of Events as well as other departments of Memory.

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* Mental Physiology, Wm. B. Carpenter, M.D., p. 441.
† Diseases of the Memory, T. H. Ribot (Humboldt Library), p. 34.

The memory of nouns is the strongest part of verbal memory. Children make use of nouns first to express their ideas, such as mamma, papa, dog, cat, man, house, etc.; later they use the qualifying power of adjectives.

Memory of faces is a department of the general memory which varies greatly in different individuals, some possessing an almost phenomenal power in this direction. The late Stephen A. Douglas exhibited ability of this sort almost unprecedented. It is related of an old gentleman who was singularly deficient in this memory that, being in the company of his wife one evening, he took her to be a lady whom he had formerly been in the habit of visiting every evening, and he would repeat over and over: "Madam, I cannot remain longer; I must return to my wife and children."

The capacity for and memory of the adjective element are most pronounced in those having the muscular system predominant, while the bony man uses nouns,—hard, concrete, simple words,—which include an *entire idea* in a single word, as, for example, home, mountain, horse, etc.; the large-eyed, muscular subject deals in the descriptive and ornate,—the adjective part of language; while the soft, vegetative individual uses the softest words, and overflows with gush, sentiment, poetry, and "soft talk" generally, and all are in harmony with his own soft, fatty structure. Singers like Parepa Rosa, who was described by Ole Bull as a "mountain of fat, a mountain of delight," use the most mellifluous tones, soft and melting; while singers in whom there is relatively less fatty tissue bring forth clear, resonant, ringing tones. The harmony between the bodily structure and artistic and mental powers can be traced indefinitely and almost unlimitedly, not only in regard to color, tissue, and form, but also in relation to the quality and proportion of the individual. A symmetrical man will be a good judge of proportion, while a very unsymmetrical one is less capable in this respect. A man full of fine color in his eyes, hair, and skin has a stronger memory for colors, tints, and shades than the colorless, pallid person. It is thus shown that Memory has a manifold aspect and pertains to every separate and distinct faculty, and, as has been shown in Part I, it inheres in every atom of the physical being, for "it is impossible," as Professor Ribot remarks, "to say where Memory, whether psychic or organic, ends."

"Memory is not wisdom, a fool can rote volumes," and a large memory merely does not of itself make a man wise; indeed, it is sometimes the compensation which Nature makes for a lack of *original thought.* The best intellects do not always possess the greatest memory. Yet, where a fine intellect co-exists with a strong memory, it forms a mind of the first magnitude. Many semi-idiotic persons have possessed phenomenal memories of various sorts. Blind Tom exhibited phenomenal music-memory, but was almost idiotic in many other departments of mind; but Mozart, who composed at four years of age and lived to manhood, showed the greatest musical memory of all great composers, and was a person of considerable intelligence in other branches of mentality. Richard Porson, a celebrated Greek scholar of England, was noted for a phenomenal language-memory, which Galton termed "stupendous." Nicholas Bidder, of England, and Zerah Colburn, of our own country, were celebrated in their youth for most uncommon numerical memory as well as for skill in calculation. Among historians possessing powerful memories, I may mention Grotius, Josephus, Macaulay, Prescott, and Gibbon. Among editors Horace Greeley stands pre-eminent for his marvelous memory of events, his mind being a perfect magazine of facts, while his reason was on a very high scale. The uncommon development of these two faculties was the compensation for absence of the practical traits, which in him were small. Cardinal Mezzofanti, considered the greatest linguist that ever lived, could express himself in fifty-six languages, and was acquainted with sixty-four others. Lord Byron described him as "a walking polyglot, a monster of languages, and a Briareus of parts of speech." Julius Cæsar Scaliger was one of the most extraordinary men of his day. He had a most comprehensive memory and a sound intellect, and endeavored to ascertain the basis of Memory. His mother possessed a remarkable memory, and transmitted it intensified to her two sons and a daughter. George Bartholdi Niebuhr, an historian of Roman history, a Dane (the son of a laborer who also became eminent by reason of his natural energy), possessed a still greater memory than his father's, which was considered phenomenal. Thomas Babington Macaulay, historian, poet, and essayist, was a man of transcendent power of memory (Galton). Here memory of events, words, and ideas is meant. Among ancient scholars, Marcus, the father of Lucius Annæus Seneca, exhibited a prodigious verbal memory. It is said that he could repeat two thousand words in the order in which they were spoken. Madame de Staël, authoress and brilliant conversationist, had a very retentive memory and was a good reasoner. Sir William Hooker, celebrated botanist of England, possessed a remarkable memory for form, color, and words; was made director of the Royal Gardens at Kew. He was a writer on botany. His talent in this line was transmitted to his son, Dr. Joseph Dalton Hooker, who succeeded him in the directorship of the Royal Gardens. He inherited talents from his mother's family as well as from his father. Gottfried Wilhelm Leibnitz, mathematician and metaphysician, could repeat in his old age the whole of Virgil. James Watt, the inventor, had a memory of mastodon proportions, and was a clear and logical reasoner. Watt possessed not only a great memory of events, but one equally good of form and motion (the muscular sense) and of mechanical principles. Most of the persons named above possessed good constitutions, and by keeping up their powers by suitable nutriment were able to sustain great mental labors and maintain a great store of ideas upon which to draw at their pleasure. The habit of close scrutiny is a great assistance to general memory, for by *looking attentively* and *intelligently*—that is to say, thoughtfully—at any scene or object, it is photographed, so to speak, and becomes a part of the mental furnishing of the mind. Careless lookers do not memorize objects as do the thoughtful. One who practices upon a musical instrument mechanically, without fixing his attention earnestly upon it, fails to receive as much benefit from his exercise as he would were his entire attention centred upon it. The power for abstraction is an excellent thing to possess. It inheres in the muscular system, and is a great adjunct to memory of several kinds. It is said that Horace Greeley could sit down amid the din and noise of the Loyal League Club, of New York, and write off his leaders perfectly unmoved by the uproar about him. This gift of concentrativeness, like memory, can be cultivated; yet, as it is a muscular gift, the muscular system must be cultivated in order to strengthen it. The faculty of Self-will assists one very greatly in the act of abstraction.

Memory of Events is subject to many disorders, and some have lost this gift almost entirely by overtaxing it. The system of "cramming" in our public schools, and for examinations in all institutes of learning, induces a sort of mental dyspepsia, the result of which is in many cases to permanently impair the memory of events and otherwise weaken the mental processes.

The historic evolution of Memory shows us that its course of development commences with the function of digestion, viz., by the use of the sense of scent and taste. The Memory next brought into existence is connected with other sense-organs, viz., the sense of sight, of sound, of touch, and of temperature and pressure. The muscular sense comes into use a little later, at about the third month, when the child commences grasping, and thus the muscular sense involved in the adjustment of the muscles leads to acts which soon become *purposive* and *intelligent*, involving the exercise of the faculty of Self-will. It is after these faculties have all been exhibited and the foundation of these memories laid that the higher intellectual faculties, such as speech and conscious thought, are developed by the progressive evolution of the human powers. The memory develops in precisely the order in which the faculties make their appearance, and, as the visceral structures lie at the foundation of our domestic sentiments, our loves and appetites possess the most lasting and abiding memories, and only fail when the organs from which they derive their power become disintegrated by disease or old age. The sense-organs (after these faculties) exhibit the next most permanent memories,—the memory for size, form, and color, for sound, motion, and language, remain fixed in the mind in their numerous manifestations long after the higher powers of the intellect have been lost or become enfeebled, viz., the power for abstract reason and generalization. In disease and old age the inverse order is observed in the weakening of these traits and their associate memories.

There are not only great personal differences in regard to the Memory of Events, but there are also great national differences. The ancient Greeks doubtless possessed the best verbal memories of any nation, ancient or modern. Their muscular development assisted this, and the proofs of both these circumstances is further supplemented by their great oratorical, dramatic, and artistic skill. They depended greatly upon memorizing what they heard, and thus strengthened their verbal memories by not resorting to written or printed copies of that which they wished to memorize. As sculptors they have never been excelled, and here the memory and faculty of Form, assisted by the universal symmetry which characterized them as a race, contributed to this result. The Continental Europeans, particularly the Celtic races among them, excel as linguists, for in them the muscular is one of the dominant systems, and hence verbal memory is regnant. The memory of color is also very general among them. Particularly is this true of the Italians and French, while among the Germans, who have relatively less color than the former, the color-sense and color-memory are relatively inferior. This is also true of the Britains and the Scandinavian races. They are fairer and possess less capacity and taste in the arrangement of colors, tints, hues, and shades than the darker-hued races. The Americans, being a mixture of all races and possessing considerable delicacy of the color-sense, exhibit generally a good degree of taste in colors, as well as a good memory of tints, hues, and shades. Thus we see that the several and numerous departments of Memory can be traced in a national, racial, and personal manner, and compared and verified.

In animals may be observed as *many kinds* of memory as are exhibited in man. They prove by their actions that their love for and memories of color, form, locality, and individuals is as strong as that in the human race. They are able by the sense of touch (as among the insect tribes, such as ants, wasps, bees, etc.) to distinguish one another, and to communicate their designs and desires. Of course, these acts build up a memory related to them. The memory of the walk, voice, gesture, and faces of their own and of the human race, has been attested by mountains of evidence. Memory of numbers is well defined in some birds and other animals. In fact, it goes without saying that they have memory of all sorts, for they possess precisely the same physiological and anatomical bases as human beings, through which to create and store their experiences, which later become memories.

In the memory of faces several faculties are involved, as, for example, Form, Size, and Color, for a human face is a complex combination of many appearances; but the more expressive it is, the stronger will be the impression made upon the mind of the observer. The presence or absence of color in the human being affects very greatly not only memory of colors, but it bears directly upon the memory of all the sense-organs, as, for example, sight, hearing, taste, and scent, as is well-known in Albinos, the absence of color enfeebling all their senses. But we may go further in tracing the relation of color to the higher intelligences, and can safely assert that a condition of permanent pallor indicates enfeebled powers of Memory of Events, as well as of other departments of Mind and Memory. Color denotes activity and power, and one who can by a course of hygienic living tone up a pallid complexion to that degree that it will exhibit a fair share of natural color will improve *all* his faculties in just that degree.

The pleasures of Memory form one of the most satisfying and permanent methods of enjoyment and personal improvement. The power to recall beautiful scenes, objects of art, and fine colors, as exhibited in art and Nature, the noble expressions of living countenances and portraits, as well as the grand thoughts of the master minds of literature, all alike assist in forming a mental storehouse of incalculable value. Nature in her munificence has furnished us with every apparatus for the purpose of recalling pleasurable sights and emotions, but in her kindness has left us destitute of any apparatus by which we can remember and reproduce pain and suffering once experienced. We may be able to recall the fact that we have suffered, but we cannot recall and live over again the agony and actual suffering caused by sickness and sorrow. This is a beautiful example of beneficence unparalleled in Nature's works. Let us, then, store our memories with beautiful sights, sounds, forms, colors, and experiences, in order to draw at will upon this reservoir. We should in early childhood memorize fine poems and sentiments in order to be able in adult life to draw them forth for instant use. Many adults are unable to readily commit to memory the beautiful poems, speeches, and sentiments which would often prove of infinite service to them, but, owing to the multiplicity of thoughts and affairs which fill their minds, they cannot memorize readily. Parents should cause their children to memorize and store up forms, colors, harmonics, melodies, and sentiments, in order to have a large accumulation of useful material for use in after life.

"Lull'd in the countless chambers of the brain,
Our thoughts are link'd by many a hidden chain
Awake but one, and lo! what myriads rise;
Each stamps its image as the other flies!"—ROGERS.

LOCALITY.

Definition.—Capacity for recollecting localities, positions, directions, places once visited, and the relative positions of objects to each other. Locality gives a desire for traveling, and is the base of the talent for navigation and geographical research, map-making, etc. It is a dominant faculty in surgeons, anatomists, scientists, naturalists, and physiognomists, and is essential to all the trades and professions.

An *excess* might cause one to become a confirmed rambler, but otherwise could not be harmful.

A *deficiency* is a serious defect in any character, as it lessens one's power for practical work, and makes one dependent on others for finding articles and localities. Characters thus deficient spend a great deal of time, not only in searching out localities, but fail to remember where they have placed articles, such as tools, garments, etc.

Facial and Bodily Signs.—The most prominent facial signs of Locality are found just above the sign for Weight and below the sign for Memory of Events. Locality is known by a *fullness* of the *muscles* at this point, is surrounded by other muscular signs, and is in close proximity to the *eye*, its chief assistant in localizing places and things by sight, the eye being also a muscular feature. This sign is not very large until adult life, because the faculty is not developed until the individual has *used the eyes* in closely scrutinizing positions, localities, and objects; in other words, not until after the muscles of locomotion and of sight have been called into *continuous* action, and after years of *drawing forward* the muscles termed *corrugator supercilii* to assist the vision in scanning objects. The muscles forming this sign become enlarged by use, and sometimes develop a size as large as a kernel or a wen.

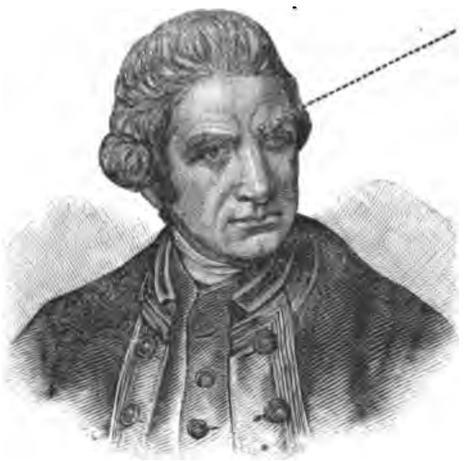

Fig. 99.—CAPTAIN JAMES COOK. (Marine Surveyor, Navigator, and Discoverer.)

Born in England, 1728. Principal facial sign, Locality. The law of the straight line, curve, and square governs this face. Conscientiousness, Firmness, Patriotism, Love of Home, Alimentiveness, Mirthfulness, Benevolence, Economy, Love of Young, Amativeness, Force, and Modesty are strongly represented in the lower part of the face. The nose is large, long, high, broad on the back the entire length, and shows the signs for Sublimity, Mental Imitation, Ideality, Human Nature, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will well defined. The signs about the root of the nose are worthy attention. Observation, Locality, Weight, Form, Size, Language (both in the eyes and mouth), Time, Order, and Calculation are very remarkably developed. Reason is large, while Credenciveness is not at all apparent. The look of earnest attention shows that this character relied upon Observation mainly for his knowledge of facts. His peculiar combination of the practical faculties, among which the faculty of Locality is pre-eminent, enabled him to make many great discoveries in geographical knowledge.

A long, thin, and high nose is still another facial characteristic of Locality, for the body must harmonize with the face, and where the limbs are long and active the nose will be found to harmonize in shape. Long-limbed people are much inclined to walk and visit strange localities—are natural travelers.

Long-nosed animals are better travelers than short-nosed ones, as witness the speed of the deer tribes, Arabian horse, giraffe, chamois, antelope, and greyhound, compared with the short-nosed sheep, llama, koäla, or Australian bear.

In giving local signs it must be understood that the faculty and power are *general* and *diffused* through that system to which the local facial sign indicates it as belonging, as, for example, Weight and Locality inhere in the muscular system, and show themselves in the face by muscular development, while Form and Size depend upon the osseous system, and are exhibited by bone development.

The chief *bodily signs* for Locality are long limbs and slim or medium-sized body, with about equal degrees of the muscular and osseous systems. Very large, fat people, with the vegetative system predominant, seldom exhibit much of the localizing sense.

In the animal kingdom the high-flying birds and the fleetest animals possess the best locative powers. The corresponding structure in the human family exhibits similar powers. Locality is related to *motion*, and the muscular system is the principal system involved in locomotion, and hence is the principal exponent of the sign for Locality. A person who remained stationary would develop only a limited degree of Locality; his muscular system would be correspondingly enfeebled. This illustration serves to show how motion, muscle, and the sense of localities are related or bound together.

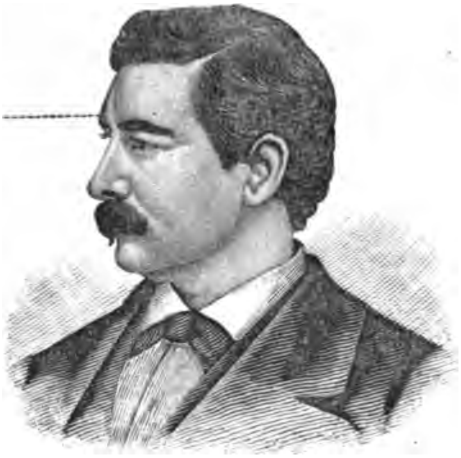

FIG. 100.—GEORGE ALFRED TOWNSEND.
(AUTHOR, JOURNALIST, LECTURER.)

Principal facial sign, Locality, shown by development of the muscle at the inner terminus of the eyebrow, just above the local sign for Weight. The law of the curve and straight line governs this physiognomy. The domestic nature is normally represented, and there is sufficient Conscientiousness and Firmness to give rectitude and stability to the character. The curving jaw shows dramatic tastes. Patriotism is well defined; so also are Benevolence, Friendship, Approbativeness, Mirthfulness, Pneumativeness, Self-esteem, Force, Cautiousness, Hope, Analysis, Mental Imitation, Sublimity, Ideality, Constructiveness, Veneration, Executiveness, and Self-will. The signs for Observation, Form, Size, Language, Memory of Events, Order, Time, Reason, and Intuition are well developed. The color-sense is strong, and gives force, color, and brilliancy to all his descriptions of persons and places.

DESCRIPTION OF LOCALITY.—The most active persons and animals are those that possess the best sense of Locality. The most inactive are those that exhibit the least of this power. We are warranted, then, in inferring that this trait bears some relation to the motory system; and when we add to this inference the fact that the *local facial signs for Locality* are disclosed by *muscular development*, as in the signs in the forehead, and also that a fine development of the muscular system is one of the necessary adjuncts toward the development of this sense, we feel justified in declaring that system to be the base of Locality. If this sense was derived from brain development, purely and solely, it would show *at birth* by a projection in that part of the forehead where, in adults, we find its signs; but all the evidence goes to prove that its origin is *muscular*, and that the parts of the organism used mainly in its action are the muscles of the limbs and the eye. It is true that the eyes as well as the muscles of the limbs are connected with cerebral nerves, but these nerves are not the *chief agents* in the exercise of the locative sense. They assist, but are subordinate. There have been men of commanding intellect in certain directions who were greatly lacking in this practical faculty. Brain development merely will not give this sense. There must be in combination a fair or superior muscular endowment, either as regards *quantity* or *quality*, or both.

The possession of large powers of Locality gives a desire to move about, travel, and observe; hence the greatest travelers have developed this trait, and are therefore able to describe by writings, by pictures or maps, the countries visited and peoples and objects encountered. The physiognomies of Captain Cook, Marco Polo, Christopher Columbus, Hendrick Hudson, Sir Martin Frobisher, David Livingstone, Sir John Franklin, and Captains Ross and Parry exhibit large facial signs of Locality. Their portraits show them to have possessed bodies suitable for continuous motion and great activity.

The classes of birds that are migratory in their habits exhibit a greater degree of the localizing sense than those classes of birds whose habits are stationary, as, for example, the domestic fowls. The "homing" of carrier-pigeons is due to their large locative sense. The incidents noted of the ability which these birds have displayed in finding their way to their homes from long distances prove that they possess a locative sense superior to that of man.

Animals, in the wild state particularly, exhibit uncommon powers of Locality, and are able to return to their lairs, dens, and dams after long and extended journeys. Some birds annually revisit their old nests and occupy them, after having passed a portion of the year in distant lands. The migratory nature and the localizing faculty are part and parcel of one trait, hence expressed in muscular symbols. Without migrating from one place to another, one would have but little need of recollecting places, distances, and directions, but with the taste for travel comes the necessity for being able to localize and store up the memories of the places visited and the direction and distance traveled.

Not only is this faculty useful to travelers and navigators, but all trades and professions depend upon its power. It is indispensable to the naturalist, geographer, astronomer, the mechanic, surgeon, inventor, musician, chemist, shopkeeper, and housekeeper. Everything in existence occupies space and must have a location, and this faculty is adapted to the placing and memorizing the place, position, and locality once observed. It enables one to find his way through trackless forests, crowded cities, and over boundless seas.

Locality assists Order and really partakes somewhat of its nature. If Locality does not give the love for placing things and keeping them placed, it aids one to remember *where* they are situated, and one is thus enabled to find without effort the road, city, path, or object which he has once seen.

Surgeons and anatomists require a *fine development* of Locality to enable them to picture to their "mind's eye" the exact position of the nerves, veins, arteries, and muscles in the human body. All great, natural surgeons possess a very large development of the muscular system, as witness their round heads, bodies, and limbs. Physiognomists also must have a fine localizing sense to enable them to correctly place the local signs of character, as well as to picture at will, *mentally*, the exact and minute details of faces once inspected. The face is a complex object, and presents a combination of forms, sizes, colors, lines, wrinkles, elevations, and depressions, which the skillful physiognomist must be able to seize upon and "photograph" mentally, and retain each in its own place, in order to recollect the minute details of faces once observed. The signs of this trait are very conspicuous in the physiognomies of Porta, Lavater, Cicero, Averroës, Camper, and in those of all of the best-known physiognomists. So also are the facial signs of Locality excessive in the faces of all the great astronomers. Examine the portraits of Laplace, Galileo, Lalande, De Lanbre, the Herschels, Harrison, Bradley, Leverrier, Kepler, Lockyer, Olmsted, and Miss Maria Mitchell, and Locality will in every instance be found well defined. The life-long habit which this class of observers practice, of using the eyes for *close observation*, and the habit of *drawing forward* or approximating the superciliary muscles, *develops a large amount of muscular tissue near the sign for Weight.* The muscles of locomotion (in which Locality and the sense of Weight come into activity) are greatly exercised by all classes of travelers, and by observers in the sciences and in the mechanic arts. The housekeeper should possess ability to localize objects and articles in the home, for without this power great confusion would ensue, and a constant searching for things would be necessary. The same capacity must be had by the shopkeeper, in order to facilitate the placing and finding of his goods and wares. The apothecary and chemist must have a fine localizing sense, else serious disasters might result. Many persons exhibit large Locality and small Order. The one is, in a sense, a compensation for the lack of the other, and is really the only compensation which Nature could make for this defect. Many persons possess a large development of Locality and a small degree of Calculation or sense of numbers. Such persons can find the way to places better by a description of the locality than they can by the numbers of the street and house. Locality in combination with Constructiveness give the ability to remember the parts of machinery and to set it in motion. Engineers require large Constructiveness, Calculation, Form, Size, and Locality, and carpenters should possess large Form, Size, Locality, Calculation, Reason, Physical Imitation, Economy, and Force. Artists should possess large Color, Form, Size, Locality, Ideality, Constructiveness, and Mental and Physical Imitation. Surgeons should combine large Locality with Form, Size, Constructiveness, Force, and Reason; while the navigator and pilot must possess large Locality, Form, Size, sense of direction, together with large Observation and Calculation. In short, Locality is essential to every person, in all the walks of life.

With Observation, Locality, Human Nature, Memory of Events, and Form large, a desire to travel and to study men and things generally will be evinced; for, in order to make the most of traveling, and to derive the greatest possible amount of instruction from visiting strange countries, a scientific knowledge of the human face is *indispensable.* Lavater observes that "the traveler should possess money, health, and physiognomy." To study forms of government, inspect castles, palaces, art-galleries, and great public works undoubtedly enlarges the mind,—instructs in art and architecture; but this knowledge does not compare in importance with the knowledge derived from a correct understanding of the various races and peoples one meets in an extended tour.

The study of geography is one excellent method for developing Locality, and children should be taught *first* on a globe instead of from flat maps. Very young children can be taught to discern the points of the compass, and should be trained as early as four or five years of age to find at any hour of the day the direction of the points of the compass by the position of the sun. There is no method of education which children enjoy so much as instruction out of doors in every department of Nature. In this way they learn faster and more accurately than by book-study. *Living forms* are more attractive to them than pictured representations of countries and objects. Indeed, the main part of a child's education should be gained out of doors, whether studying from books or by observation. An intelligent mother or teacher could impart more *real knowledge* to a party of children in a single country excursion than they could gain by a week's study indoors from books alone. In starting out, let the points of the compass be firmly fixed in the mind, and then have observations made at every important turn in the road. This will cultivate the sense of Locality. The nature, form, and uses of the several varieties of trees observed could be made useful in many ways. The outlay or topographical features of the landscape as it is divided up into hills, valleys, lakes, ponds, etc., should be pointed out and studied. In this manner children would be so trained to *thoughtful observation* as to enable them to "photograph" mentally every minute change in the features of the country observed. The wild flowers and herbs met with could be utilized, and a lesson in practical botany and medication, as well as in form and color, could be drawn from these living hieroglyphics of Nature. The forms and habits of birds, beasts, and insects met with would serve to illustrate a large department of natural history, and would, under the guidance of an intelligent parent or teacher, make a lasting impression upon a child's mind. Every little deviation and turn in the route should be noted down, and the landmarks made by certain trees or clumps of bushes, and elevations and depressions of the land made to serve as points of observation and verification of distance, direction, and locality. One day passed in this manner in the forest or fields with a class of children will afford more rational and healthful amusement than all the fine parties which modern society has evolved for the purpose, evidently, of crushing out of children all natural, wholesome, childish sentiments and pleasures.

Another excellent method of cultivating Locality is by the study of astronomy, the local part of which can be taught by observation of the heavens any clear night. If taught in childhood, it gives a life-long satisfaction and entertainment. Nearly every one is familiar with the location of the constellation of the Great Bear (Ursa Major) or the "big dipper." Taking this as a starting-point, one can locate the position of the polar star, which is found by means of the "pointers" of the big dipper, which always point toward it. Ursa Minor, the "little dipper," is the constellation in which the pole-star is situated. Cassiopeia, "the lady in the chair," is on the opposite side of the pole from the big dipper. These objects are the best known of the constellations, and with the assistance of a star-map any parent can soon locate and trace the others, and by reading up in mythology can give the children the legendary history of all the constellations. The fanciful names and their appended traditions will interest, fascinate, and amuse children, and make a permanent impression upon their mind, while a knowledge of the relative localities of the stars and constellations will assist them in after life in finding their way over oceans, wastes, and pathless wilds. The stories and legends attached to Perseus

Cygnus (the swan), Auriga (the charioteer), Capella (the goat), Taurus (the bull), Gemini (the twins), Canis Major (the great dog), and Canis Minor (the little dog), the Milky Way, Cancer (the crab), Leo (the lion), and all the other well-known stars and constellations, will unfold to children not only a knowledge of localities, but will store their minds with astronomy, mythology, ancient history, and an understanding of the religious beliefs of former ages. A few evenings every season passed in this manner would soon give a child a great store of practical matters. It is most gratifying to observe the enthusiasm with which children enter into the study of the sciences *out of doors* and upon the living subjects, as among birds, beasts, and vegetation.

The study of physiognomy is one of great interest to children. I have seen a class of little girls interested in this science who were able to make out just and accurate observations of form, feature, and color, as observed in the human face, and who could apply many of the rules and laws for distinguishing and localizing the several signs of character in the face and body.

Locality is a universal fact for the reason that everything in existence is placed, located, situated, or positioned in relation to every other object in the universe. Locality, like Number, is omnipresent, for the base of all things is Number; all things may be counted and reckoned, hence time (which has in it the element of Number) and space (or position, situation, or place) are general and universal, and govern and control, underlie and lie back of all matter, materials, and objects.

As we advance in our study of the higher faculties of mind, such as we are now investigating, we find that they assume very broad proportions, and are related to all things in Nature, as well as relate man to all other material objects, laws, and principles. Man is the embodiment of all laws, forces, principles, and *forms* known, as shown in the second chapter, Part I, but which are more minutely elaborated in the chapter on "The Basic Principles of Form."

In order to be in harmony with his surroundings, man must be able not only to recognize the ethnic characteristics inscribed on the physiognomies of all races and people, but he must be able to comprehend the hieroglyphics of the Infinite inscribed upon every atom and object in the universe. This knowledge *could only be sought through the agency of faculties partaking of the nature of the object or law investigated.* The science of physiognomy proves this, for we know that a man who possesses a strong color-sense is best able to judge of colors; that one with a musical build is best able to judge of musical tones and harmonies; and that one endowed in the matter of Form is most capable of judging of shapes, etc. So one possessed with a fine sense of Locality and direction is best able as an astronomer, scientist, or geographer to comprehend the immensities of space, and to trace with the eye of the mind, as well as with the physical sight, the paths of worlds through time, space, and eternity. In short, man must be *en rapport* with his environment, and as time wings its onward flight, and brings about great revolutions in Nature, so we find that man also, under the irresistible law of progressive evolution, is prepared to take his place, and work in harmony and unison with the *advanced order* of the universe. And all this progress is by plan, design, and law of the *Creative Mind*, for we cannot conceive of anything but *mind* being able to control such vast and complex interests, because we perceive that nothing but *mind* is able to comprehend these grandeurs. It is true that in this physical state it is embodied in a fleshly form suited to its environment, yet the mental part of man is the part which takes cognizance of and applies all material forces to his needs. When I say the "mental part" of man I mean to include every sensation, feeling, sentiment, faculty, and thought of which he is capable; they are all mental in different degrees and in different ways, and all together make up what is termed "human character," as exhibited in our present phase of existence in time and space.

THE MUSCULAR SYSTEM.

WEIGHT.

Definition.—Natural perception of the laws of resistance, gravity, momentum, direction, balance, motion, and weight; capacity for estimating weights by lifting and by sight; ability to adjust the muscular mechanism of the body to suit shifting positions, as when on shipboard, in skating, dancing, using hammers and tools, etc.

An *excess* leads to excess of motion, as in dancing, skating, athletics, and other sports, and to speculations upon gravity and futile inventions based on the principles of mechanics.

A *deficiency* tends to inertia, lack of force, and inaccuracy in many arts; also feebleness in walking, dancing, athletics, balancing, jumping, leaping, and skating. It causes, also, poor judgment of weights and of the mechanical forces which are the propelling and controlling powers in running machinery.

Facial and Bodily Signs.—The most decisive facial sign of the muscular system (next to the eye) is the local sign for the sense of Weight. I might with perfect accuracy term this the sign for the muscular system, but as all have eyes by which they can *easily* and accurately estimate the amount of muscle as well as its quality, and as every one does not possess a large sign for the sense of Weight, and, again, as this sign is not very conspicuous until after the muscles have been *used continuously* in some mechanical or artistic pursuit, I cannot accept it as the principal facial sign for the muscular system. The sign for Weight is known by a *fullness* of the *superciliary muscle* at the *junction of this muscle* with the *ethmoid bone* or at the inner terminus of the *eyebrow*. There are other facial signs of the muscular sense of Weight subordinate to these principal ones. They are found in the rounding out of the sides of the forehead, full convex eyes, and curving lower jaw,—the "dramatic jaw." These are all signs of the dominance of the muscular system, and are representative of parts which assist the sense of Weight in its attempts at muscular adjustments, as in posing, balancing, climbing, playing instruments, skating, and in the use of mechanical tools and machinery. The shape of the limbs, hands, and feet are also indices of the sense of Weight. Arms and legs that are well rounded show a greater degree of the muscular sense of Weight than very thin, bony ones, or those which are greatly lacking in muscle. Hands that are muscular, with tapering fingers and oval nails, announce the presence of this sense. The body most favorably constructed for the active use of this faculty is one in which the bony system is *square*, with limbs long rather than short, and the muscles *round* and dominating the bones.

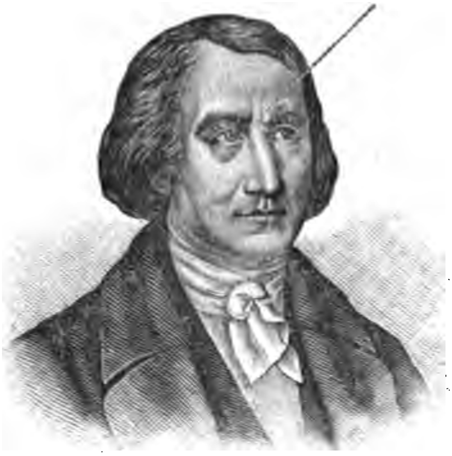

FIG. 101.—FRANCOIS JEAN DOMINIQUE ARAGO. (DISTINGUISHED MATHEMATICIAN, ASTRONOMER, AND SCIENTIST.)

Born in Spain, 1786. Conspicuous facial sign, Weight, shown by muscular development at the junction of the brow and nose. The law of the straight line, curve, and sphere governs this face. The signs for Conscience, Firmness, Patriotism, and Love of Home are large. Benevolence, Love of Young, Modesty, Mirthfulness, Approbativeness, Alimentiveness, and Friendship are conspicuous. The sign for Modesty is well defined, while Amativeness is normal. The length of the nose announces Caution; in it the signs for Human Nature, Sublimity, Analysis, Constructiveness, Acquisitiveness, Veneration, and Self-will are very pronounced; Observation, Locality, Weight, Form, Size, Color, and Calculation are marked, while Language, Memory of Events, Reason, and Intuition are preeminent. Credenciveness and Prescience are only slightly manifested.

DESCRIPTION OF WEIGHT.—The proofs as to which system is the base of the sense of Weight are so numerous and so easily observed that the bare mention of them will suffice to demonstrate that the muscular system is (with slight assistance from the nervous mechanism) the main source of this sense, which promotes in a most supreme manner the hundreds of complicated movements of the muscles which are necessary in the pursuit of every trade and many professions. Suppose, for illustration, that a man could be born and exist with a mere thread-like trace of a muscular system and with a large brain of fair quality, capable of clear thinking and susceptible of education from books, his hands would be, of course, very small and feeble, his limbs useless for extended locomotion, and he would be utterly unable to be taught any art or trade, owing to want of muscular development. This fine, large brain might think out good or even grand thoughts, but he would not be able to play an instrument well, fill a tooth, make a chair, play ball, or dance, row, skate, or swim skillfully. If to this otherwise good brain and physique a fair share of muscle could be added he might perform all of these acts. The muscular mechanism in combination with the bony frame-work is the source of external motion, of the activity of the members of the body, and of the movements of the trunk.

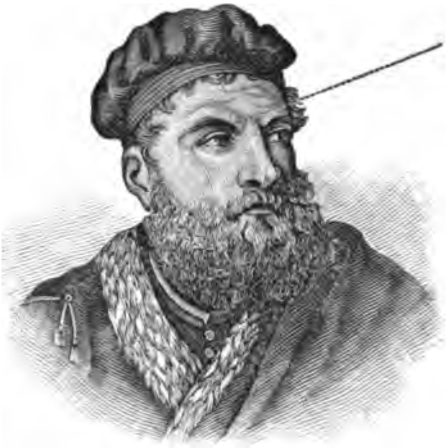

FIG. 102 —MARCO POLO. (CELEBRATED TRAVELER AND AUTHOR.)

Born in Venice, 1250. Conspicuous facial sign, Weight. The law of the straight line and curve governs this face. The signs for many of the domestic traits are hidden, yet a very good judgment can be formed from those that are visible. Alimentiveness, Sanativeness, Friendship, and Benevolence are large. Conscientiousness and Firmness are well defined. In the nose the signs for Ideality, Sublimity, Analysis, Hope, Constructiveness, Acquisitiveness, Pneumativeness, Veneration, Executiveness, and Self-will are large. The signs for Observation, Form, Size, Order, Weight, and Locality are conspicuous; also Calculation, Memory, Reason, and Intuition. Credenciveness and Prescience are small.

One portion of the muscular system—the heart—is the centre and source of all *internal motion.* The heart is also a purely muscular organ. The heart once set in motion by vital processes creates the motive power (by its periodic contractions and rhythmic motions) by which the lungs, liver, and all other organs are kept at work. The *circulation* of the blood is the principal business of the heart. This circulation, by sending the blood to the brain, gives it power to think, and by carrying blood to all parts of the body—to the bones as well as to the muscles—it gives them the power to move and act.

The elements of motion, of density, of gravity, and of force are all inherent in the muscular system. Motion is the primary principle in the muscular tissue, and motion is the base of all the sense-organs, as is proven by the tremors of the nervous tissue while in the process of transmitting to and from the brain the intelligence of which the sight, hearing, etc., have become cognizant. Looking and moving the eye from one point to another is a mode of motion; so, also, putting the ear on stretch, as in listening, sets vibrating delicate muscular fibres as well as nerves. Talking is also produced by motions of the muscles involved in the act of speaking, and vocal sound is motion through the atmosphere. *Curving* is the essential property of muscles as well as of motion primarily, as in the spherical form of the earth and in the rotatory motion of the solar system, for any object which produces continuous motion must be circuloid in form.

Memory in many departments is unconscious registration in the muscles of the *motions* which they automatically reproduce after continued exercise, as in singing, playing instruments, dancing, etc. So the major part of memory is dependent upon the motions made by the muscles of the eye, ear, hand, body, and limbs. Memory, in fact, in all cases is made conscious to us through *motions* of the nervous or muscular fibres; and all motions carry with them the element of weight or force, and muscular beings are most susceptible to the impressions made by force, motion, movement, density, and weight, because their own muscular powers are organized upon the mechanical principles which include all of the laws of these forces. For proof, investigate the science of sound; consider its action and *form* through the atmosphere; it is wave-like or curved in its passage through the air, and the sound-waves are propagated with force through the air toward the ear, which in its *outline is curved.* The *internal* parts of the ear present a wonderful array of curved, convoluted, or circular tubes, as seen in the cochlea. Now, these muscular fibres and pipes are capable, with the assistance of the auditory nerves, of distinguishing the *pitch* or *force* of every sound which the ear receives, and the most perfectly-constructed ears are those most capable of recognizing *differences* in the *degrees of force;* while the most musically-constructed ears are most capable of judging of the *pitch*, *force*, and *quality* of musical tones, showing that the ear, like the eye, has in its construction *all the elements of organization* which sound and light possess and exhibit. Thus it is shown that the undulations of light are curvilinear, else they could not be propagated through the air. *Sound* is also *curved* in its *form*, and is thus able to move through the atmosphere at a high rate of speed. The eye is circular. The ear is of the same shape in many parts of its structure, and both are supplied with muscular fibres which are capable of the movements resulting in resonance and elasticity, as is the *air* itself. The motions of air, sound, and light are *forces* which assume *forms* and exhibit *force* or resistance, and hence *weight*. The organs and members of those in whom the muscular is one of the dominant systems are found to be the best adapted to judge of the phenomena of light, sound, motion, weight, force, resistance, etc. An examination of the most eminent mechanicians and physicists is proof positive of this. Look, for example, at the portraits of Helmholtz, Wollaston, Humboldt, Faraday, John Dalton, Hofmann, Bernard Palissy, Roger Bacon, Joseph Black, Thomas Young, Descartes, and Newton, and there will be found in each subject all the signs of a fine development of the muscular system. It is true that each of these persons possessed an excellent brain and nerve system, yet without equally good muscular powers they would have been unable to exhibit in their works those principles of the natural phenomena which they discovered, elaborated, and wrought out.

The sense of Weight is used first in infancy with the first attempts at *grasping*. The infant's first attempt at clutching a finger is almost convulsive, and with no perception of how much force to use in holding on to it, but after repeated attempts he finds that less force is necessary, and the grasp is considerably relaxed. Later, the sense of Weight comes actively in use in balancing the body in the attempts to rise and walk, and so continues by vocal exercise, and in adjusting the eye to different focuses and the ear to tones of different degrees of power.

The pitch of the voice in talking, shouting, and singing is due to the sense of Weight,—of force or resistance of the air and muscles combined,—and is a purely muscular exercise. Here it is shown how motion (the motion of the vocal muscles) is related to the muscular system.

Persons with a good sense of balance are not so liable to sea-sickness as where this faculty is weak. One who can easily adjust his movements to the ever-shifting motions of the vessel will be able to overcome the tendency to nausea, providing his liver be active and normal.

In adult life the various trades and professions develop the nicer and finer elements of this sense, as in sculpture, architecture, engineering, dentistry, and metal-working. In playing instruments this sense is most particularly called into action, owing to the delicacy and precision of touch required in the degrees of force necessary to produce musical effects, ranging from *forte* to *pianissimo*.

The sculptor must also, with equal precision, be able to strike with just the right amount of force or weight upon his chisel in order that only certain quantities of the marble be cleft. His ability is the result of an inherited organization suited to his work, then perfected by use and cultivation. Thorwaldsen, Canova, Giacomo, Alessandro, and all sculptors of the highest merit exhibit the facial signs for Weight, as well as many of its bodily signs.

In the setting up of machinery the mechanician must have an innate perception of the mechanical powers and forces, and by education must learn the theory and philosophy of the laws of force, which, when once understood, teach him that the "centrifugal force of a revolving body increases according to the square of its velocity." He must also understand the laws of resistance, friction, gravity and gravitation, the law of the various lever powers, the *pressure* of the screw and *power* of the crank, pulley, wheel, and axle, and all their combinations. In the sciences, his senses must be so fine and practiced that he will be able to weigh the ethers and gases and comprehend the amounts of force exhibited in the expansion, liquefaction, vaporization, and incandescence of heat, for heat is "an immaterial force, resulting from *vibrations* in the molecules or atoms of matter," and vibrations produce *motions* and of course assume forms (abstract), like a gesture, or the path of a projectile through space. These are both curvilinear in their passage through the air, and curve toward the earth through the mechanical law of attraction or universal gravitation discovered by Sir Isaac Newton.

Astronomers require a natural comprehension of the laws of distance, time, force, motion, and equilibrium. Most of the eminent astronomers, such as Struve, the Herschels, Halley, Olmsted, Leverrier, Adams, Airy, Donati, Piazzi, Mitchell, and Olbers, exhibit combinations in which the muscular and brain systems are dominant. The principles of time, of mathematical computation in regard to distance, density, and the geometrical properties of form, they derive from high quality of the brain system; but the senses of weight, ponderosity, mechanical construction, and orbital motion are derived from the fine development of the muscular system. Of course, the muscular system has its representation in the brain, and a large representation it must indeed possess when we come to consider how large a share of life's works is due to muscular movements. Many astronomers are round, muscular men, others square-built, each individual exhibiting the branch of the science in accord with his own bodily form. In the faces of Herschel, Leverrier, Halley, and others, the signs for Sublimity, Imagination, Constructiveness, Analysis, and Calculation are all conspicuous, and these are muscular signs whose associated faculties inhere in the muscular system.

The dentist must be able by the sensitiveness of his muscular mechanism to gauge the force of his instruments with great accuracy and certainty of touch in order to remove minute particles from the teeth. The blacksmith, who is really a sculptor in iron, must be trained to comprehend the laws of heat, as in the expansion and density of the material employed. He must also shape *by the eye* with unerring precision the *form* of the metal on his anvil. He, too, must in a pre-eminent manner understand the degree of power or weight he requires to bear upon his materials in order to produce the desired effect. In other departments of action a nice sense of the laws of force, motion, weight, balance, and resistance must be had in order to assist the efforts of the carpenter, mason, and builder, as in the construction of spires, bridges, roofs, etc., and in engineering. In the planning, designing, and construction of such works as the Eddystone lighthouse, the bridge over the Missouri River, the Mississippi jetties, etc., the mechanician has to call into play all these mechanical forces and many other principles as well. The portraits of James Eadds, who built the latter, and of John Smeaton, who constructed the former, disclose the signs for Weight as well as other mechanical traits. Civil engineers as well as architects use the sense of Weight in planning the structures which they build. The laying of railroads, grading canals, erecting elevators, boring artesian wells, building bridges, docks, pumps, aqueducts, churches, towers, spires, and cathedrals, building and running engines, fortifications and shops, necessitate a knowledge of the laws of force and resistance, momentum, cohesion, attraction, gravitation, equilibrium, and weight. All these laws have motion as their elementary principle, and all motion has form as its elemental base, and form and number are bases of all things in existence.

The faces of all eminent sculptors reveal Nature's graphic signs of the allied mechanical faculties. In a lower class of artists the facial sign of Weight and Balance is also present. It is seen in acrobats,—those who are skilled in leaping and balancing upon the trapeze,—as well as in slack- and tight- rope dancers, skaters, horseback riders, and velocipedists, who must be able to estimate their centre of gravity and adapt the degree of inclination to their velocity and the resistance to be overcome. All these classes require a natural as well as cultivated sense of Weight, and must be able to spontaneously adjust all their movements to the requirements of their position. Oarsmen, swimmers, ball-players, and sailors exercise this sense until it becomes instinctively and is really a "sixth sense." The muscular sense should be classed with the so-called five senses, and be termed the "sixth sense."

The sense of weight is useful to weavers and spinners. Doubtless this sense is of great importance to the spider, which, in weaving its geometrical web, requires the aid of such a faculty. The muscular system is dominant in the spider family, hence it is that they show so much constructive and artistic ability and produce so many mechanical contrivances, as they do in the hinge-door nests and in the perfect geometrical proportions of the web woven by one species of the *Arachnida*, which use bits of gravel to steady their webs and construct their nests by different methods to suit different localities, showing that "blind instinct" is not the controlling force in this case, but that reason, geometrical foresight and insight, mechanical, practical, and scientific powers on a large scale are used, and all without a "large brain" to assist their grand architectural efforts. Their sense of calculation, too, must be very great, as witness the precision with which they proportion the distances between the warp of their webs and the accuracy of the spaces which they observe in the weaving of the woof. The weaver, like the spider, must be able to "sense" pressure and weight in the manipulations of his threads, fibres, and weights; a keen sense it must be, too, which enables one to work with such fine materials. The sense of weight, distance, time, momentum, resistance, and height is manifested in a remarkable manner by many animals. Dr. J. Lauder Lindsay cites the following instances:—

> In various ways certain animals show that they can correctly calculate or estimate space or distance, including height. The horse, for instance, in the steeple-chase or hurdle-race calculates hurriedly the height of the fence he is about to leap. The dog does the same when he is invited to jump through a loop for a bit of bread. The lion and other carnivora estimate both height and distance in their contemplated spring upon their prey. Certain fish are called shooting or archer-fish from their precision of aim in bringing down flies on the wing by *squirting* at them drops of water, the nicest calculation of the intervening space as well as of the size of their prey being involved. They *learn* by *experience* to make due allowance for the refraction of light by water, to use their natural weapon, the syringe, in the operation of squirting, and to employ water as an effective kind of shot, missile, or projectile.*

The elephant makes similar use of his trunk as a syringe or hydropult, and of water as a projectile, while it also estimates distance, in the occasional punishment of his human tormentors. Certain animals also form their own estimates of weight, resistance, impetus, or momentum, and size. The elephant must calculate weight or resistance in judging of the degree of strength it must put forth to move a timber-log. The ant probably makes a similar calculation; when meeting with a large, heavy, dead beetle it calls in the aid of its fellows to roll, carry, or push it to its nest. The same animal shows its knowledge of dimension, of length and breadth, of the smallest diameter of an object, in the conveyance of booty or in the dismembering of prey. Horses, mules, and camels measure or estimate the size as well as weight of their loads, so as to judge of the possibility of their passing through forest-openings, gates, or doors, or of their ability to bear them with comfort. Dogs, at least, calculate and make allowance for the rapidity and strength of currents of rivers and tides. Thomas Wood describes a miller's dog that, to save a drowning small one, ran to the side of a certain river till he got well below the drowning dog, then he sprang into the river, and so exactly had he calculated the rapidity of the river and his own speed that he intercepted the little dog and brought it safely to land.

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* Mind in the Lower Animals, J. Lauder Lindsay, M.D., p. 461 *et seq.*

In watching the operations of ants, I have myself seen them proceed to the opening of their nests with a bit of straw several times the length of their bodies, and, finding upon trial that they could not enter with it "head first," they did precisely what a carpenter would do with a plank under similar circumstances, viz., they backed down with it.

Mechanics of all classes use the sense of Weight constantly, and almost unconsciously and automatically at times. Metal-workers learn by experience to estimate by sight the weight of materials in use. Carpenters do the same. Plumbers, after experience, understand the force of a given-sized stream of water, and the makers of mechanical instruments and contrivances soon learn to estimate the force and momentum of the wheels and pulleys which they manufacture. Very complex principles enter into many mechanical machines, which must be comprehended exactly by those who operate them, and those who think that mechanics are common-minded and inferior in intellect underrate them greatly. The man who can construct and operate a complex machine is quite intelligent enough to take a prominent place in government, and for my part I should like to see a government managed by skillful, practical, intelligent mechanics, for I consider the mechanic classes superior in morals and practicality to all others.

We may search through the whole range of the universe, and we shall find that the laws of weight, balance, force, resistance, and momentum are universal in their effects, and are part of the mental construction of all animals in *degrees suited to their wants.*

We find in the vegetable kingdom, even, that this law obtains, and trees whose spread of branches is great have corresponding *spread* or *depth* of *root* to balance or hold them in position. The giant roots of the Sequoia, or the mighty Banyan, illustrate this principle. The same law holds our little planet true in its orbit; it affects the motions of the tides and winds; in short, it is a universal law and universal in its effects upon every object, animate or inanimate, and upon every particle and atom of matter. "All is contained in the least."

The pressure of the atmosphere upon our bodies and our power of resisting its weight are manifestations of a universal law of weight and resistance, and thus, look where we may throughout Nature's broad domain, this principle is ever at work.

LANGUAGE.

Definition.—The capacity for using language in a precise, suitable, fluent, or eloquent manner; the talent for acquiring, speaking, and writing foreign languages, dialects, words, phrases, idioms, etc.; ability to construct, translate, and learn the grammar of languages.

An *excess* makes one voluble, wordy, verbose, and causes one to chatter, prattle, gabble, babble, gossip, tattle, etc.

A *deficiency* is shown by marked reticence, by difficulty in expressing the thoughts in suitable language.

Facial and Bodily Signs.—Large, full, bright, convex eyes; fullness under the eyes; rounding out of the head above the temples; full lips, full cheeks, full throat; wide mouth and chest; large nostrils; high and broad nose; wide nostrils, and length from the point of the nose to the tip of the chin, with vertical, lateral, and perpendicular width of the concha of the external ear; rounding head, jaws, body, and limbs; small joints, and fingers inclining to taper.

Lack of linguistic ability is known by small, receding eyes, and angular, spare, bony body, with very slight muscular development, small mouth, thin lips, and hollow cheeks; small nose and nostrils, flat chest, and undeveloped ears.

DESCRIPTION OF LANGUAGE.—The eye is the feature which discloses the amount of muscle in the entire organism. It is hence the facial indication of the power for motion, and the muscles are the principal agents of the motive mechanism. Now, language is produced by the motions of the vocal cords, tongue, lips, and ear. I do not by this statement mean to imply that the ear as a whole moves, but certainly sound is a mode of motion, and the vibrations of the atmosphere which convey sound to the ear are *motions of* *the atmosphere*, and describe wave-like or curved forms as they pass through the air to the ear, and are received by a curved apparatus within the skull; and there, acting upon muscles, bones, and fluids of the ear, affect the nervous mechanism of the auditory nerves and impart little tremors or vibrations to the nerve which connects the auditory nerves with the brain, "and there," as Professor Tyndall remarks, "announce themselves as sounds." Thus it is shown that language, as well as light and color, is only a mode of motion. Indeed, we may set it down as a universal law that motion is the *basis of all things in Nature.* This is proven when we come to analyze their methods of action by tracing them to their origin. Not only is it true that language is dependent upon the motions of the speaking and auditory apparatus for its power of expression, but all modes of communication known to man are by motions or movements.

The *sign-language* of the deaf-mute, the *gestures* of barbarous people when they meet and do not understand each other's language, the gestures, poses, and attitudes of the actor and orator, the movements of the hands in writing, all depend upon motions which are visible to the naked eye; but what shall I say of the countless *motions* within the body that are essential to the results which we find in spoken or written language? The rhythmic and periodic movements of the heart (a great muscular organ, related to time by its periodic movements); the microscopic movements within the corpuscles of the blood; the double and triple circulation of the blood itself as it comes through the several organs, veins, arteries, glands, and tubes; the minute dynamic forces of the nervous mechanism involved in all the motions of the subtle processes of the molecular forces in cellular construction, all tell us in a language most unmistakable that motion is the basis of all life, and that it is essentially so of the forces which produce language,—written, spoken, or symbolized.

The periodic movements of the heart produce natural pauses which are regular and rhythmic in their action. The consensus between the action of the heart and lungs and their movements in inspiration and expiration prove that the pauses in language are regulated in their action by motions of infinitesimal minuteness, as well as by those which are visible.

I have introduced this little description of the source of language in order that my readers may be quite certain that it is the muscular development of the eye which reveals the linguistic capacity of the individual,—that it is not an "organ" of the brain pushing out the eyeball, but that the faculty of language is greatest where the *muscular system* is best developed and most capable of rapid, continuous, and automatic motions of the entire muscular apparatus. This peculiar property of the muscular system will be noted when we arrive at the discussion of Music.

The mouth is the most mobile and flexible of all the facial features. The muscles of the eye, the larynx, and vocal cords are the most flexible portions of mechanism within the body, and are susceptible of high cultivation and of automatic action; hence, the entire speaking apparatus is eminently adapted to the expression of the emotions, for, as I have shown, the motions are created and exhibited by the action of the softer tissues of the body; the *elasticity* and *resonance* of the muscular system is therefore well suited to the expression of the *feelings*, both by the use of the voice, pen, gestures, and signs. Thought can be exercised by the motions or vibrations of the cerebral structure alone, but its *expression* in any manner or form must be by *motions of the muscles*, as in speaking, writing, signaling, or acting by pantomime, etc. The certainty of the connection between the size of the muscles of the eyeball and the general development of the entire muscular system, and its relations to the motions essential to the production of tone, vocal sound, and language once established in the mind of the student, he has a firm and sure foundation upon which to continue his investigation into the several kinds and degrees of the expression of Language, as exhibited by different individuals and different races.

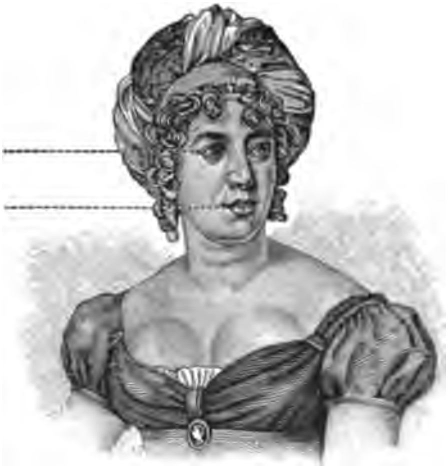

FIG. 103.—MADAME ANNE GERMAINE DE STAËL.
(EMINENT FRENCH AUTHORESS.)

Born in Paris, 1766. Principal facial sign, Language, shown by size and form of the mouth, lips, and eyes. The law of the straight line and curve governs this face. The presence of the curve in every feature discloses the artistic capacities of this mind. She was an artist with her pen. The signs for all the domestic and social virtues are well defined. Patriotism, Benevolence, Mirthfulness, Love of Home, Love of Young, Amativeness, Approbativeness, Sanativeness, Color, Modesty, and Self-esteem are prominent. In the nose, which is straight, the signs for literary ability are apparent. Ideality, Sublimity, Analysis, Constructiveness, Mental Imitation, Veneration, and Self-will are very pronounced. Form, Size, Language, Calculation, Locality, Memory of Events, and Intuition, together with high quality, made a fine character. Napoleon feared her truthful pen and voice more than he did a foreign army. He found one French woman whom he could neither crush nor silence. Her works are numerous and characterized by brilliancy, power, and beauty.

What we term the "faculty of Language" is really a combination of several faculties. Vocality, or the ability to speak as simply as the babbling infant, is the most elementary form of human expression, but the capacity to express words intelligibly involves the power for thought, hence of construction. Here we have the combination of Constructiveness (a purely muscular faculty) and Thought (also a purely mental faculty). If Language expresses the *emotions* of the speaker, the glands are involved, and show Love, Sympathy, Mirth, Approbation, Love of Young, Hospitality, Friendship, etc. If it express the creative power, such as Imagination, Mental Imitation, Sublimity, or Human Nature, the muscles and nervous mechanism assist. Hence, we are led to observe the combination of faculties and functions involved in the production of intelligent language, and this teaches us that mere talk does not constitute the highest form of vocal expression; we must be able to *feel deeply* or *think clearly* in order to converse well, and thus it is that the language used by an individual will be in accord with his bodily constitution, aided by education or impeded by neglect. If he have an excess of the vegetative system, he will use the selfishly-emotional parts of Language; if he exhibit a good degree of the vegetative system, combined with a fair share of the muscular system, he will express himself upon subjects of art or mechanism; if the square, bony form is in the ascendant, he will use nouns mainly, with clear, distinct, solid words; with a good quality of brain added, he will develop a taste for mechanics and science, and talk upon these subjects. Without education, man will use naturally the words and language which accord with his peculiar conformation. With education, he will improve upon this, and his range of language will be more extended, yet his personal formation will control and characterize his speech and writings, so true it is that form guides, governs, and dominates.

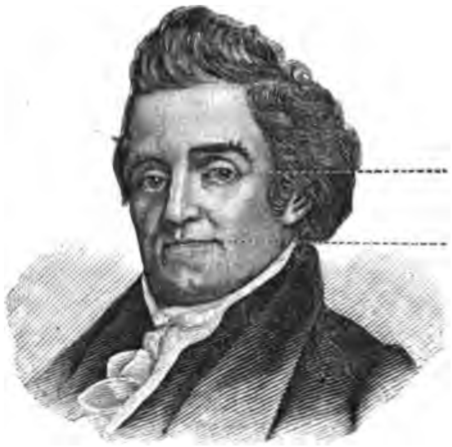

FIG. 104.—NOAH WEBSTER. (TEACHER, LAWYER, EDITOR, LEXICOGRAPHER.)

Born in Connecticut, 1758. Conspicuous facial sign, Language. The law of the straight line, curve, and square governs this face. The signs for Conscientiousness, Firmness, Economy, Patriotism, Love of Home, Sanativeness, Approbativeness, Friendship, Alimentiveness, Mirthfulness, Love of Young, Modesty, and Amativeness are exceedingly well developed and of a refined cast. The signs in the mouth and eyes for Language are uncommonly well defined. The nose is one of the first class, broad on its back the entire length. The signs for Human Nature, Analysis, Ideality, Sublimity, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are very large. The eyes and the region about them are remarkable. Observation, Form, Size, Prescience, and Calculation are highly developed; while Memory of Events, Reason, and Intuition are pre-eminent. The manner in which the hair grows is noteworthy. A truly noble physiognomy.

Color has also a controlling influence upon Language, for the dark-complexioned man will make more use of color-terms in his writings and speech than the pallid or fair subject, and the several varieties and grades of color exhibited by different persons will be also revealed in their writings. The difference between the works of Tennyson and Swinburne, for example, are proofs of this proposition. Tennyson has a dark complexion; his hair and eyes are also black or brown, while Swinburne is fairer, and paints his scenes in more delicate hues. Each uses color-terms in accord with his peculiarities of color. Thus Form and Color influence Language. Construction also assists, and, as we have seen formerly, thought and feeling exert their quota of influence upon our Language.

The homogeneousness of Nature as exhibited in man's organism makes it possible for the keen physiognomist to know by the contour of a man's head, face, nose, brow, or fingers, even, which class of words he will use most. The square, bony man will use the noun part of Language,—good, simple, strong Saxon; his fingers and finger-tips and nails will be more angular and inclined to squareness than the adjective person, whose fingers will be inclined to taper, and will exhibit oval nails, while arches and ovals will be found in his features, limbs, and outlines. Charles James Fox said: "Give me an elegant Latin word and a homely Saxon word, and I will always choose the latter;" and his forehead was square. Every primary part of speech finds its representation in the five primary and elementary forms of man, and each form will be characterized by the use of the class of words which are in accord with such form. The vegetative structure, being selfish and emotional, will express itself in domestic and emotional terms; the thoracic class, in hopeful and aspiring language, full of courage, daring, resolution, and progress. The muscular class will use forcible, strong, vehement, passionate language, and if refined and educated will affect the most artistic, affectionate, sarcastic, witty, and descriptive language; while the brain and nerve class will use the class of words which are in consonance with the form of their brain. If the brain be rounding the adjective and verb element will be used, but if the brain be angular the noun or Saxon element will be used, mostly.

Now, by this method of analysis we can account for the great variety of style observed in the writing and speeches of orators and literates. The elegance and ornateness of the works of Addison harmonize with his straight, artistic nose, yet are not remarkable for their allusions to color, nor are they remarkable for ardor, for he was relatively fair. The speeches of Gambetta were fiery, vehement, forcible, clear, and most decided, characterized by short, pithy, concrete, lucid sentences. His forehead was square and receding, giving the practical and *noun element* to his language; his color was dense; he had very black hair and eyes and red cheeks and lips; hence his impetuosity, fervor, and enthusiasm. The impassioned sentiments to which he gave utterance were caught up by his listening auditors, and thus by one of Nature's fine and subtile chromatic laws he was enabled to sway them by the force evolved from his color, and carry his audience with him wheresoever he would. Do you think a soft, round, vegetative, colorless, limp, boneless individual could have done this? The *hardness* of his bony structure gave weight and solidity to his thoughts, as well as *squareness* and *honesty*. It also imparted the practical, clear, truthful, concrete quality, while his color by its *chemical* and *calorific* properties enabled him to electrify and magnetize his hearers.

In order, dear readers, to understand the wonderful mechanism of the mind, we are obliged to comprehend something of scientific law and to base our observations upon *analysis of all the sciences*. It will not do to ascribe all of man's power to the size of his *skull* and to "cerebral organs," which demonstration now shows are made of bone and muscle; neither can we charge the brain with possessing the force and energy which the well-colored individual displays, although the color in the individual certainly makes the brain more vigorous, as it does all the tissues. It is said that Dr. Gall discovered the "organ" of Language by observing that his fellow-students whose eyes were large and full exhibited the greatest memory of words and talent for learning languages, and so jumped to the conclusion that an "organ" of the brain was pushing out the eye, while any one can see that it is the size of the *eleven muscles* of the *eyeball* which causes the eye to be large. Dr. Gall, in this judgment, was true to the law of his own formation; his brain was large and particularly full in front, and with this formation he would naturally lay great stress upon the brain and ascribe to it great powers. He was an excellent anatomist, and I wonder that he overlooked this fact; but, I suppose that in the order of destiny he was waiting for a physiognomical Columbus to come along and discover it. He has done the world a great service, but no scientist in the field of human science can discover the *whole* of human nature, any more than one astronomer can discover all that is to be known of the heavenly bodies. We each add our quota according to our light, and pass on. Recent discoveries by Dr. Ferrier and other anatomists prove that certain areas of the brain are representative of certain faculties, but the area back of the eyeball is not the area where Language is represented in the cerebral structure. *It is the facial sign for the faculty of Language, by reason of its excessive muscular development and its connection with the muscular system.*

The faculty which most distinguishes man from the brute creation is human speech, and human language exists to-day in the world in every degree of development possible, from the guttural utterances of the babe, idiot, and undeveloped races to the most expressive, elastic, and polished speech of the most eloquent races. Comparison of the mouth, eye, and ear of the most undeveloped races with the same features in the most civilized and polished peoples, together with a comparison of their several languages, shows them to have evolved progressively in the exact ratio of their physiological formation and quality as a race. More particularly is development advanced as the muscular system has become perfected,—a fact which philologists have apparently overlooked. Let the reader procure a work on ethnology, and compare the features involved in the production and reception of tone in some of the native Australian races or the Digger Indians with those of the Caucasian races, and he will see a notable difference in the eyes, mouth, and ear, as well as in all those parts of the body which assist Language. The chest in the Australian is sunken; the throat thin, the nose flat, the eye small, and all the muscles deficient in size and quality. Their language is monosyllabic and guttural, and has no terms to express such sentiments as love, justice, mercy, and the like emotions. The oral and aural formation is little above that of the orang-outang, for their mouth, eye, ear, and nose are scarcely human. Other races, such as the Mongolian, disclose in the formation of their physiognomies the infantile condition of their language; which all goes to prove that by analyzing races, physiologically and physiognomically, we can arrive at a just estimate of their grade in the faculty of Language.

The ancient Greeks, by virtue of their superior development of the muscular system, evolved the most expressive and elastic of all languages. Their orations have never been excelled, and much of their power was due to the perfection of the language, as well as to the flexibility of the muscles of the vocal cords, larynx, mouth, tongue, and lips. This nation sought the perfection of the human form by the encouragement and exercise of those games which tended to the highest development of the muscular system. The Olympian, Nemean, and Isthmian games were national and universal throughout ancient Greece, and were maintained at the expense of the government. They were considered sacred by the people, and the victors had special honors paid to them, which in some instances descended to their children. The ancient Greeks excelled in written and spoken language; also in gesture, attitude, and gracefulness. They had large, full eyes, rounded limbs, and all the signs of the dominance of the muscular system. The quality of the muscles had direct bearing upon the fluency of language. The shape of the mouth, lips, cheeks, chin, throat, and nose are all concerned in vocal expressions. If the mouth be large, and the lips full and red, the language will be copious and fluent; with a good brain system to produce thought; and with culture, oratorical ability will be manifested. A large mouth, without fine or good inherited quality, will gabble rather than converse, for conversation presupposes thought. A small mouth with thin lips indicates Secretiveness; so also do small eyes. A large mouth with thin lips will not exhibit as much talkativeness as one with large, full lips. Crooked mouths which are congenital, and not the result of accident, are not trustworthy, and will not exhibit as great degree of truthfulness and fidelity as straight mouths. Crooked eyes evince the same untruthful proclivities, ranging all the way from plausibility and amiability to positive falsehood, depending upon the amount of their deflection from a straight line. Many of the most refined and truthful persons in the world exhibit eyebrows which tend downward at the outer corners; in them it denotes agreeability, but where this appearance exists with coarse quality, and the muscular system is dominant, natural untruthfulness will be observed. Those who possess large, full eyes and full lips, with large mouth and good quality, are natural speakers and elocutionists, and, with a good brain-form, orators. These signs are present in the physiognomies, portraits, and busts of all the celebrated orators of ancient and modern times. Large-eyed people having the muscular as one of the dominant systems possess also other muscular traits, such as Constructiveness and Imagination. They are hence adapted to the acquisition of foreign languages, and can become excellent writers, if educated. Many uneducated persons with large Language and good quality have excelled in literature of the imaginative and dramatic sort. Of this number I may mention Susanna Centlivre and Miss Elizabeth Inchbald, English dramatic authors, who possessed only a meagre amount of the rudiments of education. Their portraits show large and full eyes, arched eyebrows, oval face, full lips, and dark hair. Bright eyes, if full and wide-open, denote linguistic ability, and belong to keen, vivacious, brilliant minds, full of sentiment, with power to express it by voice and pen.

Madame de Staël's eyes were of this class, and her writings speak for themselves. Her conversation was bright, witty, and interesting, but as she desired to monopolize the conversation she often proved tedious. Had she lived in these days she could have put her surplus linguistic abilities to use in platform oratory, in which she would have shone. Many persons are gifted in expression whose eyes appear to be small because the brow projects so far as to prevent their size being apparent. Such persons belong to the observing classes, and can describe well what they see. Where the eyes appear small and the language is fluent, one should examine the mouth, lips, cheeks, throat, ear, and nose for corroborative signs, for all these are concerned in the expression of Language. Small-mouthed persons rarely talk on large, profound, and weighty subjects, for size of the mouth is, in a certain sense, proportioned to the capability of the intellectual powers. Such mouths chatter and twitter like birds, and use a great deal of pretty small-talk, but are never eloquent, for the small structure of such mouths prevents the copiousness and volume essential to true eloquence.

The several degrees of brightness of the eye reveal the several degrees of *force* of Language. The color also is indicative of power of expression. Eyes that are large and scintillating, which flash and gleam with emotion, are dramatic and tragic, particularly if they are black or brown. Eyes which are large and luminous are those which look into the things of eternal life; they are affectionate, spirituelle, and intuitive. This last quality is present when the eyes are large and flat, rather than convex. The subjects which engage their attention, and upon which they converse, are sentimental, religious, and metaphysical. Very small, beady, black eyes are very secretive and passionate. Thin lips, with small or medium-sized mouth, are also secretive, and are characteristic of miserly or saving habits, especially if wrinkled.

An orator must possess a wide, straight mouth, height of the roof of the mouth, full lips, full cheeks, large or medium-sized eyes, high nose its entire length, and width of nostrils. *Height* of the nose and capacious air-passages are necessary to give sonorousness and resonance to the voice. The wide mouth is necessary to assist volume, for when the orator becomes aroused, and gives vent to a terrific outburst of invective, of sarcasm, or of impassioned feeling, he must have room and scope for its expression. A small mouth would not be competent in this emergency. The lips must be full to assist articulation and give force and power to the enunciation. Full lips also show a certain development of character, without which no man can be an orator. They disclose Amativeness, or love of the opposite sex, which is the very foundation of all high manliness and womanliness, and, as shown elsewhere in this book, is the basis of all mentally-creative states, such as artists and orators require for their efforts. Full lips also reveal other characteristics equally essential, for in the lower lip is the sign for Benevolence and in the upper lip the sign for Love of Young. All these faculties must the *man of feeling* possess. An orator might deliver the most lofty and intellectual oration, yet if he lacked the melting tenderness of emotion he would be utterly unable to arouse the feelings of his auditors, or sway them at his will. And in the portraits of all the great orators,—in those of Burke, Fox, Erskine, Curran, Sheridan, Pitt, Clay, Calhoun, Webster, and in the busts of Cicero, Demosthenes, Æschines, and others, the domestic traits are very prominent and of a refined cast.

A speaker must *feel* and *exhibit* the faculties and emotions which he wishes to arouse, and he cannot do this unless he possess them. An audience never responds to simulated feeling, neither is it as responsive to pure intellect as it is to appeals to our common nature, to our domestic ties and affections, and love of native land; and herein lay the great power exhibited by the Irish orators, Grattan and Curran. Of the last mentioned, Charles Phillips, his biographer, says:—

> He had a swarthy complexion and his eye glowed like a coal of fire. His countenance was singularly expressive, and, as he stood before a jury, he not only read their hearts with a searching glance, but he gave them back his own in all the fluctuation of his feelings, from laughter to tears. His power lay in the variety and strength of his *emotions*. His own feelings were warm and easily touched.*

"There's a charm in delivery, a magical art,
That thrills like a kiss from the lip to the heart;
'Tis the glance, the expression, the well-chosen word,
By whose magic the depths of the spirit are stirred.
The smile, the mute gesture, the soul-stirring pause,
The eyes' sweet expression that melts while it awes,
The lips soft, persuasion its musical tone;
Oh! such were the charms of that eloquent one."

In this verse the poet has unconsciously mentioned all the salient points of true oratory, viz., the lips, eyes, facial expression, magnetism, sympathy, smiles, gesture, harmony, enthusiasm, silence.

A man who could only exhibit brilliancy of intellect in speaking would resemble a glittering iceberg,—calm, cool, great, and emotionless. In the case of Curran, his swarthy color gave force and intensity to his language. It was the same with Daniel Webster,—"Black Dan," as he was termed. Many other great orators were dark and full of color and power, but all, without exception, had a wide, straight mouth, full cheeks, a large nose and nostrils, and good length from the tip of the nose to the point of the chin, together with width of the cavity of the ear in its three dimensions, horizontal, vertical, and perpendicular. All great philologists, lexicographers, and famous linguists present specifically most of these signs. The countenance of Noah Webster, the author of "Webster's Dictionary," is a fine illustration of the faculty of Language. To full eyes he adds all the other signs of large Language, viz., a wide, straight mouth, full lips, a straight nose, full cheeks and lips, curving lower jaw, and a rounding, muscular, slightly dimpled chin. His brain development was of the finest quality and his forehead was squared at the temples, thus indicating the *rectitude* and *squareness* of his mental processes. History records instances of men who have exhibited most extraordinary power in acquiring language. Of Marcus Annæus Seneca it is related that he could repeat two thousand words in the order in which he heard them. He was also gifted as an author and rhetorician. Julius Cæsar Scaliger and his son, Joseph Justus, possessed most wonderful verbal memories and were great linguists. August Wilhelm von Schlegel was master of many languages and translated the "Bhagavad-Gita," a Sanskrit classic, into Latin. Richard Porson, a most gifted linguist and Greek scholar, attributed his extraordinary power of memory to his habit of writing everything which he wished to memorize. He told a friend that he recollected nothing which he had not transcribed three times or read at least six times, adding that any one who would take the same trouble would acquire the same powers. His proficiency in arithmetic also was such that, at nine years of age, he could extract cube roots in his head. He could recite "Jack the Giant Killer" or half a book of Milton with the same facility. He was considered the greatest verbal critic of modern times.

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* Orators and Statesmen, D. A. Harsha, p. 238.

> He was able to express himself in fifty-six languages, and was acquainted with sixty-four others. He wrote nothing of importance relative to any one of them.*

His mind was more of a storehouse than a manufactory. An intellect which has the capacity to acquire many languages and write originally is indeed a first-class mind. Such were

> Humboldt, Niebuhr, Ben and Samuel Johnson, authors; Euler, mathematician; Gibbon, the historian; Hugo de Grotius, statesman; Henry Hallam, historian; Claude Adrian Helvetius, universally accomplished and a materialistic philosopher; Andre Marie Ampère, mathematician, electrician, and philologist; Count de Buffon, naturalist; Olaus Celsius, botanist and Orientalist,—a great student of Eastern languages; Albert von Haller, an exceedingly precocious and rickety child, but very laborious and possessed of a remarkable memory for languages and facts. To these we

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* Galton's Hereditary Genius.

may add the names of Huygens, the Herschels, Arago, Napoleon Bonaparte, whose memory was prodigious, and Lessing, a German littérateur.*

The acquisition of Language, like all other traits, can be cultivated to a great degree, and persons lacking in the expression of different parts of speech may overcome this defect by writing a list of adjectives, nouns, interjections, or whatever part of speech they most lack, and, by placing them before them while writing, may soon become familiar with a great variety of words. I am obliged to keep constantly before me a list of adjectives suited to the topic of which I am treating in order to supplement my natural deficiency of the adjective element.

The combinations of faculties which are found with large Language determine the style and direction which talented people will take in writing or speaking. Those with large Language, large Love of Young, Constructiveness, Ideality, and Mirthfulness will write well for and of children. Charles Dickens' physiognomy is an illustration of this combination; so, also, is Miss Louise Alcott's face characterized by similar traits. Those who combine high Quality and large Sublimity, Comparison, Human Nature, Observation, and Memory of Events, and good domestic traits, exhibit fine oratorical powers; those with a fine and strong brain system, together with large Observation, Memory of Events, and small Secretiveness, large Ideality, and fine reasoning powers, make good journalists; with Executiveness added, can both write for and manage a newspaper or periodical; with large Language, Ideality, Mental Imitation, Amativeness, Self-will, Analysis, Human Nature, and Secretiveness large, they can become actors; with large Form, Size, Constructiveness, Memory of Events, and Comparison, and fair degree of Language, they can easily learn to speak, read, and translate foreign languages. Many persons possess the capacity for writing and expressing themselves well by the pen, and yet lack fluency in conversation. This class of persons have relatively small eyes, but possess good verbal memory, Constructiveness, Amativeness, Reason, and either Imagination or other traits to assist these efforts. I am convinced that every primary part of speech is represented in the physiognomy as well as in the brain. I have not as yet located them, but can judge by the peculiarities of the face under observation which parts of speech will be most used.

Lavater, in his observations upon Language, shows that he understood the value of the mouth and ears as indications of eloquence, expression, and linguistic talent; but, lacking the necessary physiological knowledge, he was unable to analyze and trace the source of these faculties. Many of the most gifted orators have been obliged to overcome, by most patient and laborious efforts, certain defects of Nature in order to become speakers. It is said that Demosthenes was afflicted with stammering, yet by untiring perseverance and by speaking with small pebbles in his mouth he overcame this defect and was the most powerful and eloquent orator of ancient times.

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* Beeton's Biographical Dictionary.

> Curran's voice was so bad and his articulation so hesitating that he received the name of "Stuttering Jack Curran." His manner was awkward, his gestures constrained and meaningless, and his whole appearance calculated to produce laughter. All these faults he overcame by severe and patient labor. Long after his first attempts, some one speaking to him of his eloquence, said: "It must have been born with you." "Indeed, my dear sir," replied Curran, "it was not. It was born three and twenty years and some months after me." Meaning by this that his discipline had only then enabled him to reveal his native powers of expressing oratory.*

Orators, elocutionists, actors, and lawyers require large verbal memory, and by constantly taxing it they increase its powers. The muscles of any part of the body, more particularly the muscles of the speech, become automatic, as one might say, in their movements and expressions, and phrases once learned follow each other spontaneously, just as do the notes of a musical air once learned. In this performance the automatism of both ear and vocal organs are involved, and are susceptible, as I have shown in the preceding illustrations, of being cultivated to great perfection from very defective conditions. The ability to speak foreign tongues does not involve great mentality. The faculty of singing requires very little power other than *muscular capacity*, together with a suitable physiological and anatomical construction of the throat, mouth, and ear. It is true that the singer requires an emotional nature in order to put softness and sympathy into his tones, but very little *thought* of any subject outside of musical judgment is required, and the acquisition of tone-material.

Animals possess methods of communication by audible language and expression of sounds by chirping, croaking, whistling. singing, barking, bellowing, and in numerous other ways, which are just as useful to them in their grade of evolution as is man's perfected speech to him. All the higher animals, after domestication, comprehend the meaning of many human expressions, tones, intonations, and inflections. They comprehend man's desires, and co-operate most intelligently with him in his labors. No animal has the gift of human Language. One cause of this is that they have not a suitable laryngeal, nasal, and aural formation; the roof of the mouth is too low in all the higher apes, as in some idiots, thus showing that, as evolution advances a race, the physiological and anatomical structure advances with it. Animals have no *need* of human expression, for their limited pathway through life is such that a greater part of our Language would be useless to them; and yet, I think, no one has ever become greatly attached to a pet dog or horse without wishing a thousand times that it could converse with him. I must confess, I have often longed to hold converse with my horses and dogs, and have felt great sorrow at their limited powers in this direction. Their physiognomies are most expressive. Particularly is this the case with dogs, which feel all the emotions that excite us, for they express love of young, of the opposite sex, hatred, revenge, grief, sorrow, jealousy, friendliness, benevolence, mirth, trickery, acting by gestures, looks, and capers, and, as they cannot show all these emotions to us by speech, Nature has given them lithe, flexible bodies and expressive eyes and singular motions, as well as a tail with which they can show shame, fear, joy, and other feelings.

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* Orators and Statesmen, D. A. Harsha, p. 232.

I advise my readers to make a study of ethnographical physiognomy, and compare the facial and other appearances of different races, in relation to the signs of Language shown by each. But of one thing I am sure: they will in all cases find the most talented linguists, speakers, orators, and elocutionists in those races and individuals who possess the best-developed and finest muscular systems, *fine quality* always serving as a test of superiority.

MUSIC.

Definition.—The love, genius, and capacity for producing musical tones by the voice or upon an instrument; ability to sing and play music without instruction; a sense of melody and rhythm as in speaking, conversing, and in poetical composition, related to the movements of the earth and to the pulsations of the heart and other organs; the talent for musical composition.

An *excess* of the musical sense cannot be considered detrimental, for where it amounts to genius its possessor can make a most practical use of his art and give happiness to thousands; it need not be suppressed.

A *deficiency* of the faculty of rhythm and music is a very great detriment, and efforts should be made in early life to improve this natural defect. This can be done by training the child, first, by causing it to attend to the quality and pitch of natural sounds as emitted by animals and birds, and then by training its ear and voice in vocal and musical sounds. Many apparently hopeless cases have been greatly improved by a systematic course of training. Knowledge and recognition of sounds and tones is most essential in many professions. The character is more harmonious and symmetrical in conjunction with a good degree of musical ability. One's safety often depends upon knowledge of sounds, and a keen ear is necessary in the use of the telegraph and some surgical instruments.

Facial and Bodily Signs.—The most conspicuous facial signs of the presence of the musical faculty are found in the mouth, ear, tongue, teeth, lips, cheeks, nose, chin, and eye. The signs in the eye are secondary; the other signs are primary and belong to the apparatus which emits and receives musical and vocal tones and sounds. Musical capacity is large in those who exhibit a large mouth or one of average width; full, red lips; rounding cheeks; short, round, soft, muscular, or cartilaginous nose; a chin well developed in regard to length, height of the roof of the mouth, *relative length of the face from the tip of the nose to the point of the chin*, and *fullness* of the *forehead*, where are located the frontal sinuses. The fullness at this point shows that the cavities of the sinuses are large and hollow, and this peculiarity of formation assists resonance of tone, acting upon the principle of the drum. The ear must be rounding in form, and the concha of the auricle or shell of the ear in all good musicians exhibits vertical, lateral, and perpendicular development. Most musical ears have many flutings and convolutions, and are of all sizes, from the tiny, round, pink ear, resembling a sea-shell, to the large, round, and long ear seen upon the head of some organists and other instrumentalists. E. M. Bowman, an eminent Boston organist, possesses very large, rounding ears; he is also of a large, round build, and well illustrates the musical form. Professor Willis writes, in regard to the ear, as follows:—

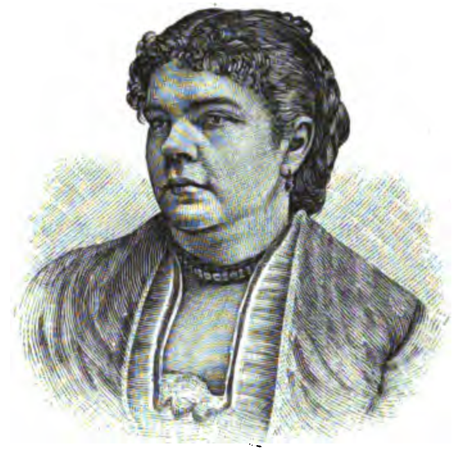

FIG. 105.—ANNIE LOUISE CARY. (VOCALIST.)

Born in Maine, 1846. Principal facial sign, Music, shown by the round ear, pendent lobule, large mouth; full, red lips; full cheeks; short, thick, muscular nose; length from the tip of the nose to point of the chin; full, round throat, curved jaw, broad and high thorax, rounding head and body. The law of the curve governs this physiognomy. In this face are all the signs for first-grade vocal ability. The domestic and social faculties are decidedly developed. Patriotism, Love of Home, Benevolence, Love of Young, Approbativeness, Hospitality, Friendship, Modesty, Color, and Self-esteem are very apparent. The nose at its point shows the signs for Ideality, Analysis, Hope, Sublimity, Constructiveness, Acquisitiveness, and Self-will large; these faculties are used mainly in connection with music and language, and not in literature. The signs for Form, Size, Language, Credenciveness, Memory of Events, and Intuition are conspicuous.

The rounded, well-formed ear, that sets forward and outward instead of being flat on the head, is a good sign of musical taste, if not of talent. The voice, however, depends upon the structure of the vocal organs and the knowledge of using them.*

Lavater, too, understood the ear to be an indicator of musical and oratorical talent. He speaks of "eloquent ears, and the ears of a musician." Another observer gives as a sign of talent for *singing* "a heavy, pendent lobule" of the lower part of the ear. This sign is confirmed by reference to the ears of all the great prima donnas, bassos, and tenors, while those who are instrumentalists merely do not exhibit this formation.

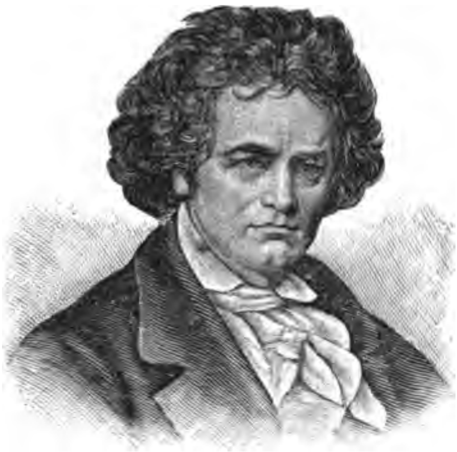

Fig. 106.—LUDWIG VAN BEETHOVEN. (Musical Composer.)

Born in Germany, 1770. Principal facial signs, Constructiveness and Music. The law of the straight line, curve, and square governs this physiognomy. This face shows constructive genius in every feature; even the hair in its manner of growth and position denotes inventive, original, individualized capacity. The *squareness* of the forehead indicates both rectitude and scientific powers. The compositions of this great genius reveal the presence of both these traits. The dimpled chin and curved "dramatic jaw" disclose dramatic ability. The nose is broad on the back its entire length. The signs for love of the beautiful in the opposite sex, Patriotism, Benevolence, and Conscience are large; Mirthfulness, Love of Young, and Amativeness normal. In the nose the signs for Ideality, Sublimity, Mental Imitation, Analysis, Acquisition, Constructiveness, Veneration, and Self-will are of the highest order. Language, Color, Form, Size, Observation, Prescience, Calculation, Locality, Reason, Memory of Events, and Intuition are pre-eminent. The expression denotes great capacity for prolonged attention and the power of abstraction. This unequaled musical genius represents the scientific side of Music in his wonderful compositions, and is well named,—"The father of Music."

The eye of all musicians, more especially of singers, is large, bright, rounded or convex, the eyebrows curved, and the general shape of the outline of the face is oval or rounded. The chin, cheeks, and the corners of the mouth of many musicians display dimples; the head is round or rounding.

The *bodily* signs of the presence of musical ability are shown by rounding body (caused by the dominance of the muscles); high, arched chest; full, rounding, or oval face; round throat, round arms and legs, arched feet; tapering, dimpled fingers; small and rounding joints. The musical structure is, in short, built upon a system of curves, ovals, ovoids, and roundness generally of every part.

Description of Music.—Motion is the basis of form, and form and motion are the bases of musical sounds. Musical sounds are produced by the elasticity of the air and muscles, hence the muscular system is the one best adapted to produce musical effects, whether by the voice or by playing upon reed, wind, or string instruments; thus, motion, elasticity, and resonance are the basic elements of sound, yet all are resolvable into motion and mathematics as primary agents. The voice of man has also three properties, viz., force, pitch, and quality. In their ultimate analysis they are also found to be derived from motion, *i.e.*, the movements of the air, and primarily from the movements of the earth through space.

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* A Treatise on Human Nature, A. E. Willis, p. 624. Chicago.

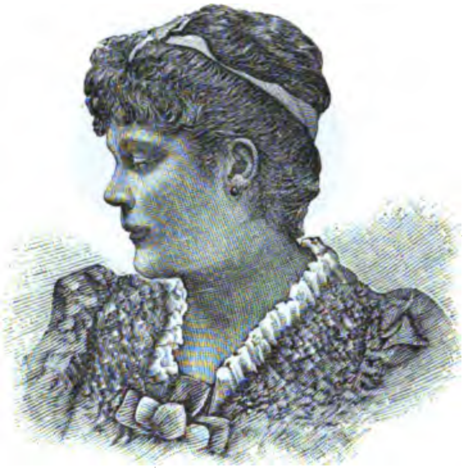

FIG. 107.—ETELKA GERSTER. (VOCALIST.)

Born in Hungary, 1857. Principal facial sign, Music. The law of the straight line and curve governs this face. The domestic nature is highly developed, as well as the artistic phase of character. The dramatic jaw, rounding chin, and size and form of the nose announce high dramatic qualities. The ear is a musical one, and by its numerous convolutions shows high development of mind. The signs for Patriotism, Conscience, Love of Home, Love of Young, Amativeness, Friendship. Modesty, Benevolence, Mirthfulness, Approbativeness, and Color are prominent. In the nose the signs for Human Nature, Ideality, Sublimity, Construction, Acquisition, Mental Imitation, Hope. Analysis. Veneration, and Self-will are pre-eminent. Language, Form, Size, Observation, Location, Calculation, Memory of Events, and Intuition are large. It is the portrait of an incomparable artist, a devoted wife and mother, a gentle, lovely woman.

The motions produced in the atmosphere by the sound of the musical tones of the voice or of a wind instrument are curved, and reach the ear (itself a curved or rounded organ both within and without), where they are taken up by the nerves and carried to the brain, and there become *conscious* sound.

Music being the universal expression of emotions, both animal and human, is based on universal law. Music is generally classed with the arts. One expression of it, as in singing, is an art purely, yet its basis lies deep down in universal scientific law. It is connected with the very foundation of the universe, and stands related to the great chain of complex laws of astronomy, through the laws of number, motion, form, resonance, elasticity, harmony, melody, time, space, and rhythm, thus giving to the poetic term "the music of the spheres" a practical and scientific meaning. Many forms of musical expression are exhibited in the insect and animal kingdoms, but are best displayed and more musical where the muscular is one of the dominant systems, for no other portion of the animal structure is adapted to or capable of expressing sound or tone, either musical or unmusical.

The elements of sound are motion, curves, resonance, elasticity, as in the air; or as found in muscle, strings, or reeds, or other material capable of tension, as in the drum-head; or by resonance, as in reeds, pipes, and the cavities of the drum, banjo, horn, whistle, etc. The lungs of men and animals, and the frontal sinuses in man, as well as the nasal cavities, are analogous to the hollow cavities of the violin, horn, drum, reeds, etc. In all of these instruments the ruling elements are elasticity and a *form* suited to the production of sonorous vibrations. Now, the forms of all musical instruments are either round or curving. The musical sounds of the voice are also curved. On this point let me quote Dr. Dalton. He remarks:—

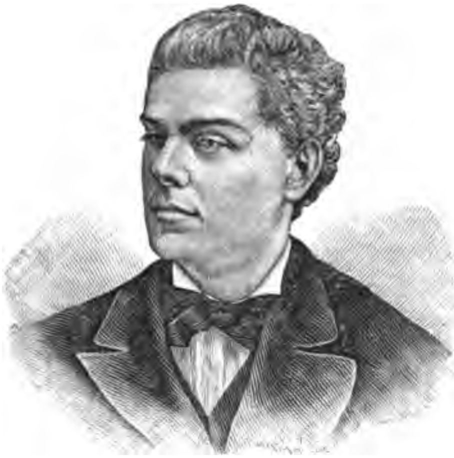

FIG. 108.—AUGUSTE EMIL WILHELMIJ. (COMPOSER, VIOLINIST.)

Born 1845. Conspicuous facial sign, Music, shown by the supremacy of the muscular system; also by a short, round, muscular nose, rounding ear, and length from the tip of the nose to the point of the chin. In this face the signs for the domestic traits are manifest. Firmness and Conscience are normal. Love of Home, of Country, and of Young, with Benevolence, Modesty, Friendship, Alimentiveness, Pneumativeness, are highly manifested. The round chin and curving jaw announce artistic capacities. Cautiousness and Credenciveness are not conspicuous. The color-sense is well defined. In the nose the signs for Hope, Analysis, Ideality, Sublimity, Mental Imitation, Human Nature, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are all well defined, the latter giving ability for musical leadership. The faculties of Observation, Locality, Form, Size, Calculation, Memory of Events, Time, Order, and Musical Reason are marked.

> The form produced in the atmosphere by the ogans of the voice in singing is a curve or a wave-like succession of impulses or tremors, which are carried forward through the atmosphere from the voice to the ear, and are there received by a rounding, external organ (the auricle or shell of the ear), thence carried through the meatus, a round channel, to the drum or tympanum, a resonant membrane stretched across the cavity of the meatus, which receives the sonorous vibrations that have been collected by the external ear and conducted inward by the external auditory meatus. Behind the *membrana tympani* is the cavity of the middle ear or the cavity of the tympanum. This cavity communicates posteriorly with the mastoid cells, and anteriorly with the pharynx by a narrow passage running downward, forward, and inward, called the *Eustachian tube*. A chain of small bones—the malleus, incus, and stapes (the mallet, anvil, and hammer, so called on account of their resemblance to these implements)—is stretched across the cavity of the tympani and forms a communication between the membrana tympani on the outside, and the membrane closing the foramen ovale in the petrous portion of the temporal bone. All the vibrations accordingly which are received by the tympanic membrane are transmitted by the chain of bones to the membrane of the foramen ovale. The *tension* of the membrane is regulated by two small muscles, the tensor tympani and stapedius muscles, which arise from the bony parts in the neighborhood

and are inserted respectively into the neck of the malleus and the head of the stapes, and which draw these bones forward and backward upon their articulations. Behind the membrane of the foramen ovale lies the *labyrinth or internal ear.* This consists of a complicated cavity, excavated in the petrous portion of the temporal bone, and comprising an *ovoid* central portion of the *vestibule*, a double *spiral* canal, the cochlea, and three *semicircular* canals, all communicating by means of the common vestibule. All parts of this cavity contain a watery fluid, termed the perilymph. The vestibule and semicircular canals also contain closed membranous sacs, suspended in the fluid of the perilymph, which reproduce exactly the form of the bony cavities themselves and communicate with each other in a similar way. The sacs are filled with another watery fluid, the *endolymph*, and the terminal filaments of the auditory nerve are distributed upon the membranous sac of the vestibule and upon the ampullæ or membranous dilations at the commencement of the three semicircular canals. The remaining portion of the auditory nerve is distributed upon the septum between the two spiral canals of the cochlea.*

The entire operation of hearing is thus shown to be carried forward and perfected by *motions* which produce a series of *curves*, *ovoids*, or round forms, caused by the action of muscle, air, nerve, and liquids, which, as Professor Tyndall has explained, carries sound by tremors or shivers. These tremors are curved or wave-like impulses and produce wavy motions. No other form could produce musical sounds, nor could musical sounds create any other forms except those which were curved, ovoid, or rounding. Now, all these motions are in harmony with the curvilinear *form* of the earth and of its motion or pathway through the heavenly spaces. The form in the air which the sound of the human voice causes when blown through a French horn is nearly circular, modified to some extent. This is *abstract form*, the same as is a gesture or the flight of birds through the air, or the form which a projectile takes. All these are forms as much as though they left an imperishable shape after them. They all, however, assume curvilinear forms through the air.

The ear is the most intricate and wonderful organ of the body and transcends in delicacy the operations of the eye. On this point Professor Tyndall remarks that

> Light, like sound, is excited by pulses or waves, and lights of different colors, like sounds of different pitch, are excited by different wave-vibrations; *but in the width of perception the ear exceedingly transcends the eye*, for, while the former ranges over eleven octaves, but little more than a single octave is possible to the latter. The quickest vibrations which strike the eye as light have only about twice the rapidity of the slowest, whereas the quickest vibrations which strike the ear as a musical sound have more than two thousand times the rapidity of the slowest.†

The keenness of hearing is shown to far exceed the keenness of sight. Scientific demonstration, with the aid of most ingenious and delicate instruments has disclosed the following facts. Professor Tyndall says:—

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* Dalton's Treatise on Human Physiology, pp. 506, 507.
† On Sound, Prof. John Tyndall, p. 75.

> The human ear is limited in its range of hearing musical sounds. If the vibrations number less than sixteen a second we are conscious of only the separate shocks; if they exceed thirty-eight thousand a second the consciousness of sound *ceases* altogether. The range of the best ear covers about eleven octaves, but an auditory range limited to six or seven octaves is not uncommon.*

The superior power of the sense of hearing to that of sight is well illustrated in pathognomy. It is well known that in many acute cases of sickness the sense of hearing becomes quickened and intensified to a painful degree, and cases are related of the sense of hearing having become so sensitive as to enable the patient to detect the step of friends upon the threshold, while the attendant was perfectly unconscious of their approach. The eye, on the contrary, in most disorders loses its power, and often becomes enfeebled for a long time after the disorder has ceased.

The eye, being less complex in its structure than the ear, is better understood by anatomists. The ear, being much more complicated in its structure, has in some respects eluded the researches of the scientists. A fine idea of its structure, as now known, is obtained from the description given by Professor Tyndall. He observes:—

> There is in the labyrinth of the ear a wonderful organ, discovered by Marchese Corti, which is to all appearances a musical instrument, with its cords so stretched as to accept vibrations of different periods, and transmit them to the nerve-filaments which traverse the organ. Within the ear of men, and without their knowledge or contrivance this lute of three thousand strings (according to Kölliker this is the number of fibres in Corti's organ) has existed for ages, accepting the music of the outer world, and rendering it fit for reception by the brain. Each musical tremor which falls upon this organ selects from its tensioned fibres the one appropriate to its own pitch and throws the fibre into unisant vibration, and thus, no matter how complicated the external air or tone may be, these microscopic strings can analyze and reveal the constituents of which it is composed.†

The physiological basis of music in the human being is found mainly in the muscular system, but it derives great assistance from the reproductive system, the principal organs of which in both male and female are muscular. All great singers, *without exception*, exhibit the sign for Amativeness in the upper lip very well defined. It is one of the signs which give redness and fullness to the lip, and thus adds beauty to it. They also exhibit large signs of Love of Young. This is a predominating trait in great singers, and all are known for their extreme love of children and of pets, many of whom they carry about with them on their travels. Patti has her little dogs and paroquets, and Di Murska caused great trouble to her managers by reason of the assorted menagerie of birds and beasts which she insisted upon having with her upon her operatic tours.

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* On Sound, Prof. John Tyndall, p. 84.

† *Ibid.*, p. 325.

The voice undoubtedly originated from the sexual system, and evolution has perfected it to the degree found in the most skillful singers and orators. Darwin has treated at length this idea, and any one familiar with the lives and habits of singers and musicians will be able to trace the power of their highly-wrought *emotional natures* to the *love* and *tenderness* derived from the development of their domestic traits. The magnetic capacity which great singers exhibit in their musical performances is produced partly by the fine quality of the muscular system and partly from the fine development of the sexual system. On this point Mr. Darwin remarks:

> The capacity and love for singing, though not a sexual character in man, must not be passed over. Although the sounds emitted by animals of all kinds serve many purposes, a strong case can be made out that the vocal organs were *primarily* used and perfected in relation to the propagation of the species. Insects and some few spiders are the lowest animals which voluntarily produce any sound, and this is generally effected by the aid of beautifully constructed, stridulating organs, which are often confined to the males alone. The sounds thus produced consist, I believe in all cases, of the same note repeated rhythmically, and this is sometimes pleasing even to the ear of man. Their chief, and in some cases exclusive, use appears to be either to call or to charm the opposite sex. The amphibians are the lowest vertebrates which breathe air, and many of these animals, namely, frogs and toads, possess vocal organs which are incessantly used during the breeding season, and which are often more highly developed in the male than in the female. The male alone of the tortoise utters a note, and this only during the season of love; male alligators roar or bellow during the same season. Every one knows how largely birds use their vocal organs as a means of courtship; and some species likewise perform what may be called instrumental music. In the class of animals with which we are here more particularly concerned, the males of almost all the species use their voices during the breeding season much more than at any other time, and some are absolutely mute excepting at this season. Music affects every emotion, but does not of itself excite in us the more terrible emotions of horror, rage, etc. It awakens the gentler feelings of tenderness and love, which readily pass into devotion. We can concentrate, as Dr. Seaman observes, greater intensity of feeling in a single musical note than in pages of writing. Love is still the commonest theme of our songs.
>
> All these facts with respect to Music become to a certain extent intelligible, if we may assume that musical tones and rhythm were used by the half-human progenitors of man during the season of courtship, when animals of all kinds are excited by the strongest passions. In this case, from the deeply-laid principle of inherited association, musical tones would be likely to excite in us, in a vague, indefinite manner, emotions of a long-past age.*

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*The Descent of Man, Charles Darwin, vol. ii, pp. 315–321.

A study of the evolution of man is the only method by which we can gain insight into the origin of our faculties and emotions. I think that any one who has listened to the grand songs of Patti, Neilson, Scalchi, Nevada, Galassi, Ravelli, or any other great singer, will have no difficulty in analyzing the feelings which stir them. The predominating emotion will be love or tenderness, a primitive trait arising from a primitive source; refined, it is true, by the high organization of the human family, yet breathing always the same spirit of love and magnetic attraction. By analysis, we shall find many qualities present in the singer which at first glance are unnoticed. Indeed, many fine physical qualities are requisite to make a *great* singer, more particularly as the capacity for singing requires very little mental development, but more of the finer physiological powers; hence, the signs for singing-ability are mainly observed in the mouth, lips, tongue, larynx, and ear. A singer must possess a *fine* quality of muscle, both as regards flexibility and resonance; a suitably-constructed throat, chest, and diaphragm; large waist, full chest, strong stomach; good digestive powers, shown by full lips, broad nostrils, full cheeks, and good-sized mouth; the eyes large and bright, for brightness of the eye indicates *a high quality of the muscles, as well as sensitive nerves*, and a good singer needs sufficient sensitiveness of the nervous system to enable him to hear and imitate accurately the finer gradations of tone.

The entire system must be built upon the *curved* or *arched* pattern. The eyebrows must be arched in order to give room for the wide-open, muscular eyeball; the roof of the mouth (the soft palate) must be highly arched, the cheeks rounding, the lower jaw well-rounded, and chin slightly forward to assist volume, and there must be relative length from the tip of the nose to the point of the chin, thus affording dimensions which are requisite for giving forth powerful and sonorous tones, viz., width, height, and depth to the interior of the mouth. The cavity of the auricle of the ear must also possess the same dimensions, while within the ear we find that the three semicircular canals are so placed as to describe the same geometrical positions. Dalton observes on this head:—

> It has been thought to be the office of the semicircular canals to determine the *direction* from which the sonorous impulses are propagated. This opinion was based upon the curious fact that these canals, always three in number, are placed in such positions as to correspond with the three different directions of vertical height, lateral extension, and longitudinal extension (for one of them is nearly vertical and transverse, another vertical and longitudinal, and the third horizontal in position). The sonorous impulses, therefore, coming in either of these directions, would be received by only one of the semicircular canals perpendicularly to its own plane, and

an intermediate direction, it was thought, might be appreciated by the combined effect of the impulse upon two adjacent canals.*

The round form observed in singers and musicians denotes harmoniously constructed organisms. A musician must be harmoniously proportioned in order to produce harmony in his works. A good musician never exhibits an angular, bony, scrawny, misshapen body nor disproportionate features. It is true that most singers have a very short nose, but that is characteristic of the predominance of the muscular system, the same as is a small, round head, and therefore harmonious and proportioned to *that peculiar development*. Musicians are, as a rule, graceful in their movements, owing to the flexibility of the muscles, which in all cases predominate over the bones, for *muscle must take command* of the bones, and all art is dependent upon the *flexibility of the muscular system*. It is impossible to express any emotion with a hard material like bone; only muscle is competent to produce curves, and the larynx and vocal cords must possess the power of easily curving into every gradation of form, "from the fissure to the true circle."

The great physicist, Helmholtz, has made many most interesting experiments in sound. He has shown that melodious, musical tones produce regular, curved, or wavy forms, while harsh sounds cause angular and irregular forms. So one science confirms another, and the student of physiognomy will find that each science corroborates all other sciences, if only the basis of each be sound and correct. We can sum up the system of curves as follows: Rounded men and women produce musical, melodious sounds. Angular men and women produce unmusical, angular, harsh, and irregular sounds. Impressions made by rounded instruments, such as string or wind, cause musical tones and curved forms. Sounds made by angular instruments create harsh and disagreeable tones and angular and irregular forms. Professor Helmholtz constructed an apparatus by which he could throw upon a screen the forms induced by the agitation of the air, which was produced by playing upon a variety of instruments and implements.

A finely-organized nervous system is another requisite in singing or playing, for the musician must be able to express sympathy, and the coarse-grained performer cannot do this; hence, fineness, sensitiveness, and refinement are essential factors in all really good or great singers and players. These conditions are the endowment of all the best musicians.

A capacity for sensuous enjoyment and expression is an essential component of the musician, and those who can best express this sentiment exhibit it largely in their own physical make-up.

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* Dalton's Physiology, p. 510.

A large share of the vegetative system is essential to the exhibition of this quality. In combination with the muscular system it gives softness and mellowness to the tones, and, as the vegetative system is the domestic system *par excellence*, so soft, melodious tones will be given forth by such singers as Alboni and Materna. Any one who listened to the soft, melting tones which issued from the lips of Parepa Rosa, and contrasted them with the great mass of soft adipose tissue which she exhibited, will not have far to go to seek the cause of that mellifluous tone and sensuous, emotional power which this charming woman breathed into her songs. She was eminently domestic, an estimable wife, and a great-souled, sympathetic artist.

Most great musicians possess round bones as well as round muscles, and this peculiarity of structure assists gracefulness of gesture, motion, and attitude, as witnessed in the grand lyric artists. It also favors instrumentation. The roundness of the bones acting in conjunction with round muscles assists the manipulation of instruments of all sorts. This formation is shown by very small joints, hidden by muscle, and often creates dimples at the wrists, knuckles, chin, and cheeks, and also produces very full eyes and an oval face.

Where the bones are square and the muscles round, the wrist-joints are more pronounced, as well as the finger-joints more prominent, of course. This combination will manipulate an instrument differently and produce entirely different musical effects than the first-mentioned combination. Each musician sings and plays in an individualized manner, dependent upon his physiological structure, each individual performing according to his bodily build and giving forth a style of tone in consonance with the presence or absence of the many qualities essential to true musical greatness. There is a vast amount of difference in performers in regard to the amount of the faculty of touch or weight. Some performers only tinkle and others bang, while another class, with a sensitive ear, graduate their force with such nicety as to produce the finest musical effects. The ability to use force to any great extent, as in organ-playing and in wind instruments, is found best developed with those who are round and strong. All the most talented cornet-players are large, round men. Many organists are also similarly constructed, while the two most eminent violinists, Ole Bull and Paganini, were built like a violin-bow, very tall, thin, and straight, yet with the muscles in excess of the bones. Pathos and melting tenderness are found in company with an organism well developed in the vegetative as well as in the muscular system, together with a fine quality of the nervous system.

The muscles, re-inforced by the nerve-centres, or ganglia, and the action of the glands, particularly the glands related to the sexual system, are all instrumental in producing fine vocal effects, whether by oratory or by singing. The singer does not need intellectual power for his purpose, yet does require a fine nervous organization to give keenness to the auditory nerve. He also requires a high and *fine quality* of muscle, and this must be *inherent;* it cannot be evolved by gymnastics, yet every quality can be strengthened and sustained by athletic sports. The capacity for singing or playing well is thus shown to require mainly a suitable bodily organization, with but small amount of pure intellect.

It is true that the grand lyric artist must have dramatic instincts well cultivated, but this is mainly a muscular trait. The singer who interprets character does not need the same degree of the knowledge of Human Nature and Analysis that the great tragic actor requires, for acting with singing is less intellectual in its nature, and does not necessitate the high mental gifts that are involved in the presentation of "King Lear," "Othello," "Marie Antoinette," or "Phèdre," for example; but, in place of these, it is essential that the singer should be able to arouse, charm, magnetize, and electrify an audience by the innate *quality* of the voice, which proceeds from a suitable bodily organization and is not at all dependent upon brain organization, or, in other words, it is not at all an intellectual process; and this analysis of the requisites of a great singer or player gives us an insight into the *rationale* of the relatively childish capriciousness of most great singers, both male and female. It gives us the clue to their strong domestic, affectional, and amative natures, which, unrestrained, lead them to be as capricious and fickle in their love-affairs as they are in keeping their business engagements. Managers of opera companies have a rather hard task at times in their endeavors to harmonize the differences brought about by the jealousies and child-like quarrels of their companies; yet, as the muscular system is one of change, they very soon get these amiable children into another mood, and thus soothed they are as happy and joyous as larks,—these sweet song-birds whose mission it is to delight and make happy thousands less gifted. The following in regard to singers I clip from the *Weekly Argonaut* of San Francisco. It illustrates the preceding statement; also the one which ascribes to musicians a large share of Love of Young:—

> Every one of the opera troupe departed this city accompanied by a new small dog and a bird. The dogs were of many breeds,—English pug, Japanese pug, and Chihuahua pug,—but every one had a paroquet. It was the manager's great pacificator. When any one got obstreperous, as singers

will, he presented him or her with one of a stock of paroquets brought secretly from Mexico. Abbey is a great manager.

A good ear for sound is of incalculable importance in many of the most practical callings. The physician requires a keen, sharp ear in order to hear with accuracy the beat of the heart; in examinations, also, for detecting diseased conditions of the lungs by the use of a stethoscope, etc. The telegraph and telephone operator, too, needs a finely-organized auditory apparatus to assist him in his work. There are many fine electrical instruments now in use which demand accuracy of hearing, and so the organ of sound is a most precious legacy, looked at from an artistic-emotional, as well as from a scientific and practical, stand-point.

There are other faculties which go to make up the perfect musical structure. Form and Size, as well as Acquisitiveness, are found well developed in all good or great musicians. Acquisitiveness is essential in many ways. Inasmuch as the muscular system in the ascendant is a playful, pleasure-loving, changeable system, those thus characterized would be as children without means to live upon, did not Nature provide, by her compensatory action, for this peculiarity of disposition, by giving these children of Art a love not only for *acquiring* praise, popularity, and fame (and this causes them to study in order to excel), but also a love for acquiring money. Many of our most illustrious song-birds are rich in this world's goods, and, if report be true, have an ardent love for accumulation. This is a wise compensation, for were they deficient in this storing-up faculty they would soon come to want. Form and Size enable them to pose and attitudinize, and also assist them in sight-reading. The muscular system gives the capacity for deciphering hieroglyphics and symbols, hence these traits are of great value to those who are obliged to use notes, signs, or symbols professionally, as do singers and telegraph operators, archæologists, etc. Our safety in many instances depends upon the perfection of the auditory organs, for sound, as well as sight, contributes to man's safety, as well as to his pleasure.

The early age at which the musical sense makes its appearance is an evidence of its infantile rank among the arts and sciences. The precocity of musical geniuses who have, at the age of infancy nearly, astonished the world with their playing is proof of the spontaneity of the performance which we ascribe to genius. Musical talent is always the outcome of generations of musically-inclined ancestors. No great genius in music has ever appeared whose ancestors were not good musicians. When this talent appears as genius, as in Mozart, who, at four years of age, played in public in a creditable manner and composed concertos at five years of age, it is simply the *inheritance transmitted from musical ancestors, quickened by some prenatal circumstance*, which has *sensitized the nervous system*, and this together with the transmitted musical aggregation which a long line of musical ancestors has sent along down the stream of time combine to render the efforts of such prodigies spontaneous or instinctive,—of the nature and likeness of breathing or any other purely mechanical or spontaneous act.

A case in point of the tendency to transmit musical talent is nowhere better exemplified than in the celebrated Bach family of Germany, which included the celebrated Sebastian Bach. Of this family, eight generations were more or less musical, and fifty-seven were eminent in musical art. Sebastian Bach was, himself, direct ancestor of about sixty of the best-known organists and church composers of Germany. (Galton.)

Musical expression requires fewer intellectual endowments than the other arts or sciences. The reason of this has been explained in the previous pages. What musicians have to acquire is tone-material and symbol-images, and the faculty for these is inherent in the muscular system. No thought or intellectual process is called into play in order to exhibit their actions, or to acquire the material. Composers, however, require a far *higher organization of mind* than mere singers and players, for *they deal with the scientific aspect* of Music, as well as its art side; they are *creators* and must possess a *grander* individuality, for the construction of Music requires great *inventive powers*, Constructiveness, arithmetical and mathematical calculation, and other high intellectual traits, which involve the reasoning faculties. The physiognomies of Wagner, Mozart, Handel, Haydn, Beethoven, and all the great composers reveal traits of a very high order. Beethoven stands at the head of all the composers, and his physiognomy is the noblest of all, for it approaches more a rectangle than the others. Of him his biographer said:—

> His hand swept the whole range of expression with unfaltering mastery. Beethoven seems to have been so affluent in great conception, so lifted on the wings of his tireless genius, so *austere in artistic morality*, that he stands for the most part above the reproach deservedly borne by his brother-composers. Beethoven's morals, as well as his music, was of a higher character than that of many of the other great composers, and in his composition he was more *honorable*, for many of his contemporaries incorporated the music of their predecessors into their use, while Beethoven relied more upon his own unaided, spontaneous genius and imagination.*

I believe that the *squareness* of his bony system, which is well defined in his forehead and shoulders, had a great influence upon his conduct, causing it to be *square* and *honest.* Weber, one of Germany's greatest composers, bears testimony to Beethoven's square formation, in the following words:—

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* German Composers, p. 134. Appleton & Co., New York.

> The square, cyclopean figure, attired in a shabby coat with torn sleeves, everybody knows; his noble, austere face is seen in numerous prints. The square, massive head, with the forest of rough hair; the strong features, so funereal with the marks of passion and sadness; the whole expression of the countenance as of an ancient prophet.*

In the faces of all the great composers we find the signs for Constructiveness, Imagination, Analysis, Amativeness, Love of Young, Self-esteem, Self-will, Reason, Time, Calculation, Order, Veneration, Hope, Human Nature, Imitation, Sublimity, Approbativeness, and other high faculties. In order to be able to express and excite great emotions, and to arouse the higher feelings, it is necessary that the composer possess similar powers. Accordingly we find, in the physiognomies of all the most eminent musicians, poets, and orators, the signs for all of the nobler qualities of mind.

Music is a great auxiliary to civilization and refines the emotions and sentiments. Singers, by their vocal efforts, assist humanity in stimulating love, devotion, religion, patriotism, imagination, and other useful traits. Music does not cultivate the baser passions, such as hatred, revenge, terror, etc., but can be used to soothe, elevate, and refine. Music is of incalculable importance in the training of children; hence, every household and school should endeavor to provide good music for the little ones. Characters in which the musical sense is greatly lacking are in some way inharmonious, and are to that extent defective.

To sum up, we find that musicians need, first, a suitable muscular endowment; next, a fine and sensitive nervous system. Singers require a suitably-constructed throat, mouth, and chest; a strong stomach; a fine, sensitive ear shaped for receiving musical sounds, and great good health (for the voice reveals and is affected by every gradation and perturbation of pathognomonic states).

The signs for musical ability are so numerous and so conspicuously placed, that the student will have little difficulty in discovering them. Let him place the pictures of twenty or thirty of the most eminent musicians before him, and seek the signs herein given, and he will be astonished at the uniformity of the signs of Music which appear on the faces of so many diverse individuals of all nationalities.

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* *Ibid.*, p. 3.

THE MATHEMATICAL DIVISION OF THE FACE.

All the faculties and powers which relate to or assist in mathematical computation and demonstration are found in the upper or third division of the face, as exhibited in the outline cut on page 288. This attribute pervades all things, and shows the divisibility of substances, space, and time. Mankind would be like the blind groping in daylight without this power of computing, numbering, and demonstrating the numerical divisibility of all things in Nature. Statistics, surveying, navigation, weighing, measuring, and all business transactions involving calculation and accounting, come under the action of this department of the mind. Time in music, rhythm in poetry, the periodicity and revolution of the heavenly bodies, the succession of the seasons, and the quantitative particles of matter, are all subject to the laws of mathematics. So much of one element, another quantity of a different constituent, and a third proportion of some other substance, gas, acid, or ether, go to form every atom of organized life or matter of which the senses can take cognizance. There is no doubt that the pulsations of the heart and the natural accentuation of speech are subject to mathematical law. Indeed, there seems to be a law of correspondence throughout all Nature, by which the laws of all departments are correlated and act in unison with each other.

If the motions of the planets and the duration of the seasons, with all their sequences, are subjects of mathematical law and demonstration; if, in short, every atom of every kind whatever is regulated and governed by this all-pervading law of numerical certainty, why is it not reasonable to conclude that man's life, its duration and pathway or orbit through time and space, are also matters of law, coming naturally and *necessarily* under the law of mathematical certainty, and susceptible of demonstration like every other atom, or organization of atoms, in the universe? You may say that this is but a restatement of what is called "the law of destiny." I do not object to that term, if it be so understood as to include scientific law as the basis of the destination of all created matter. I do not give out this idea as based on a settled law of Nature, because I cannot substantiate it by well-demonstrated facts; but reasoning from all the analogies of Nature,—from the harmony that I observe attending all her operations, and from the co-ordination of all her forces,—I believe that mathematical law may be the basis of the duration of our allotted time here. Its universality of application is simply unlimited; yet easily demonstrated, by all who will investigate natural phenomena.

Sir John Herschel says:—

> It is a character of all the higher laws of Nature to assume the form of a precise quantitative statement. The law of gravitation expresses the exact mathematical decrease of the gravitating force with the increase of the distances. Chemistry is, in a most prominent degree, a science of quantity. Astronomy likewise builds on mathematically-expressed relations: the satellite revolving around its primary describes equal areas in equal times, and the squares of these periodic times are as the cubes of the distance. In the vegetable kingdom two is the number ruling in the flowerless plants, three in the endogenous, and five in the exogenous. There is a mathematical law also governing the relative number of petals, sepals, and stamens, and the growth of leaves around the stalk. In animal life the mollusk forms a perfect geometric curve, and proportions the size of its whorls to the distance between them; and in the higher animals it is discovered, as in the number and size of the vertebræ, the number of teeth, etc., the same fact of a quantitative principle prevailing everywhere while yet in subordination to special laws of function or mode of life.

TIME.

Comprised in the Five Systems of Functions.

"The mysteries of God are revealed in Space and Time, through Form and Motion. They are concentrated in Rhythm, which is vibration or swing of matter through equal spaces and in equal times."—Delsarte.

"In all motions the central element is time, and all motions are rhythmical or have measurable forms or limits, and when these are reached they tend to repeat themselves or return to equipoise. The smallest of these forms are the waves of the forces, and the largest are the paths of the cosmical bodies."—Book of Wisdom.

Definition.—Movement, periodicity, rhythm, harmony, the time-telling and time-keeping faculty; promptitude, regularity, exactness in keeping engagements; precision in walking; automatic movements of the body and limbs in marching and beating time to music; capacity to comprehend the periodicity of the movements of the earth and heavenly bodies, as in astronomy and in the manufacture and use of scientific instruments; related to the motions of machinery, also to the physical habits of digestion, sleeping, waking, breathing, speaking, and singing; adapted to a knowledge of passing time, as in the succession of the seasons,—of years, months, days, minutes, and seconds; rhythmic time regulates the pulsations of the heart and lungs, also the movements in dancing and waltzing, and governs the pauses and sentences in oratory, as well as the cadence or measure of poetry. Time is the regulator of the flow of the sap and juices of vegetable life, and causes the recurrence of the seasons by the yearly revolution of the earth on its axis. The faculty of Time gives the ability to tell the time of day or night, instinctively, without reference to a timepiece.

An *excess* of this faculty causes one to be exact, fussy, precise and overprompt in keeping engagements and in exacting the same of others. It tends to form the habit of constantly beating time to every rhythmic sound, as in the ticking of a clock, etc.

A *deficiency* makes one careless in regard to keeping appointments and in observing set times and seasons; causes an irregular, shambling gait; prevents precision in music and dancing; creates unskillfulness in the use of automatic instruments and the manipulation of machinery.

Facial and Bodily Signs.—The sources of Time within the human organism are so many and so diverse that I have decided to give the general signs and follow with a classification of them as they are revealed by the peculiarities of the human form and systemic mechanism.

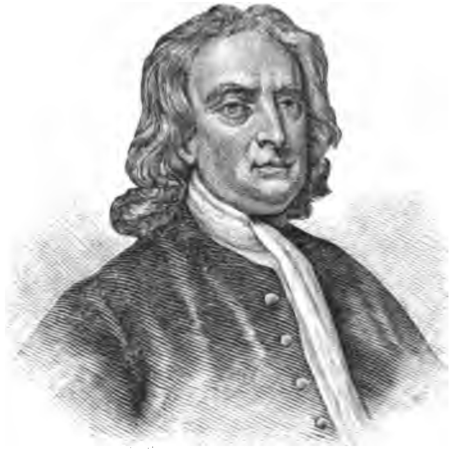

FIG. 109.—SIR ISAAC NEWTON. (PHYSICIST, DISCOVERER.)

Born in England, 1642 (O. S.) Conspicuous facial sign, Time, shown by spherical form of head, and rectangularity of the face, and right-angled appearance of all the features. The law of the straight line, square, and sphere governs this face. The brain system is dominant, the bony system ranking second, and the vegetative powers normal. The sign for Conscientiousness is largely represented, and assisted this character in comprehending those laws and truths of Nature which he discovered. Firmness is large; Alimentiveness, average; Benevolence, well defined; Pneumativeness, Color, Love of Young, Patriotism, Love of Home, Modesty, and Friendship, conspicuous; Self-esteem, small. The nose is high, long, broad, and bony. The signs for Analysis, Mental Imitation, Sublimity, Ideality, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are of the first order; while Form, Size, Language, Weight, Calculation, Locality, Observation, Memory of Events, Reason, Time, Order, and Intuition are prominent. This portrait discloses a character of the first magnitude, and is that of a moral, religious, and scientific man.

The general signs by which we may distinguish the presence of the faculty of Time are shown, first, by a predominance of the brain system, a pear-shaped or ovoid face, small chin, thin cheeks, relatively small nose, and thin lips—brain system predominant. Second, by squareness of the face and forehead, angular head, square shoulders, and squareness of the bones of the entire body—osseous system predominant. Third, by roundness of the face, head, body, limbs, and entire form—muscular system predominant. Fourth, by a fine development of the thoracic system, shown by a high, arched chest and a sharply-defined, receding forehead; high and large nose; bright eyes; lively gait—thoracic system dominant. Fifth, by supremacy of the vegetative system: this is shown by a preponderance of soft, fatty tissue all over the body; full, globular cheeks; large mouth; slow motions; dull, sleepy eye; slow pulse; feeble mental power, and childish facial expression. All of these sorts of time are found combined in various ways and in varying degrees. When thus combined they will exhibit some of the peculiarities of each system, and thus one individual is able to make use of *several kinds* of time in his trade or profession.

DESCRIPTION OF TIME.—The phase of time exemplified by the predominance of the brain system, or ovoid form, gives ability for astronomy and for those geometric calculations upon which Time is dependent. It also includes the reasoning and logical processes essential to the comprehension of vast and complex systems of laws which are concerned in the movements of the planetary system,—the basis of time. The intellect discovers laws through the faculties of Comparison and Causality, and originates new methods and systems of computing and calculating time and motion.

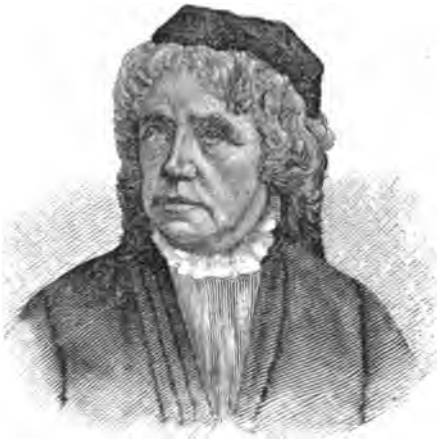

FIG. 110.—MISS MARIA MITCHELL. (ASTRONOMER, DISCOVERER, MATHEMATICIAN.)

Born in Massachusetts, 1818. Facial sign, Time, shown by a general rectangularity of the face. The law of the straight line, square, and cube governs this physiognomy. In this countenance are to be found all the elements of scientific greatness; therefore all of the more reliable traits of character. Firmness and Conscientiousness are large; Economy, Patriotism, Love of Home and of Young, Benevolence, Amativeness, Self-esteem, and Modesty are singularly prominent. The wide mouth and full eyes show linguistic capacity. The long, wide, and bony nose discloses indications of scientific talent. The signs in it of Analysis, Ideality, Sublimity, Mental Imitation, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are highly developed. The width of the bridge of the nose denotes logical ability. Size, Form, Weight, Locality, Calculation, Memory of Events, and Intuition are conspicuous. This lady was for twenty-five years Professor of Astronomy in Vassar College. She also made many important astronomical discoveries.

The sort of time which is originated and exhibited by the osseous or bony system is in accord with the square form, which is precise, rectangular, practical, prompt, and conscientious, hence adapted to the use of time in the manufacture and manipulation of scientific instruments which require accuracy and which execute rhythmic movements, and in the construction and use of machinery in which the mechanical principles of the laws of gravity and circuloid motion are dominant. It also gives the tendency to the practical application of time as an element in scientific instruments, in surveying, in mensuration, and other mechanical pursuits, in the use of the stethoscope and other instruments required in medical treatment. This sort of time tends to promptness in meeting engagements, causes precision in walking, making the steps exact and uniform in length. It gives the faculty of being able to tell the time of day or night *by the sense of passing time.* The osseous system, by virtue of its angular construction, is conspicuous by its ability to use time as related to divisions, whether by the yearly or diurnal motions of the earth, or by the use of instruments or machinery which divide time into exact, set, precise periods, in contradistinction to that sort of time which is rythmic in its smoothly-revolving motion, as with a circular body. The former would deal best with machinery in which cog-wheels were used, while the latter—the muscular form—would deal best with the wheels of a watch or revolving machinery with bands and pulleys. The square-boned form, allied to a fine and large brain system, is the combination observed in most astronomers, surveyors, architects, naturalists, and inventors. Examine, for example, the physiognomies of Rudolph Virchow, Charles Darwin, C. H. M. McCormack, Schleiden, Bunsen, Sir William Herschel, Pasteur, Arago, John Draper, Edison, and Count de Lesseps. Squareness, regularity, precision, and a capacity for comprehending the *truths* of Nature, and natural law must be present in order to comprehend abstract and absolute *truth*, and this talent is best displayed by *squareness* of the entire osseous system in combination with a brain that can reason logically from cause to effect. *A certain degree of each of these sorts of time* is essential to a high development of this faculty, as more than *one phase* is required for all high calculations. The elements of roundness and squareness, for example, are needed to demonstrate geometry, elementary or analytical.

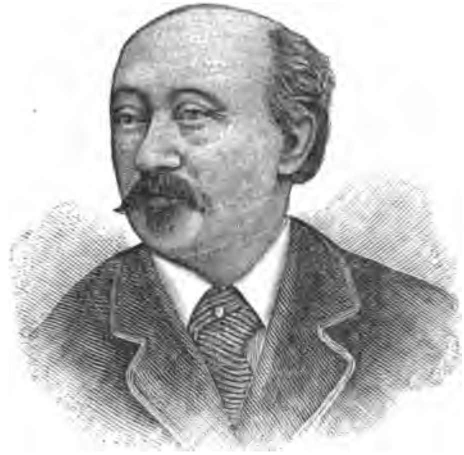

FIG. 111.—SIGNOR LUIGI ARDITI. (MUSICAL COMPOSER AND CONDUCTOR.)

Born in Piedmont, 1825. Conspicuous facial sign, Time, shown by the roundness of the face, head, eyes, and ears. The law of the curve governs this face. This entire organism is fashioned upon the curvilinear plan, and, associated with large Executiveness, affords the right build for musical leadership. The chin and lower jaws are curved in true artistic form. Love of Home and of Country are well defined; so also are Firmness, Benevolence, Approbativeness, Friendship, Alimentiveness, Hospitality, Mirthfulness, Color, Sanativeness, and Force. In the nose the signs for Human Nature, Mental Imitation, Analysis, Ideality, Constructiveness, Acquisitiveness, Veneration, and Executiveness are manifest. Form, Size, Language, Music, Memory of Events, and Intuition are quite noticeable. The Quality is fine, and the amount of Color in the organism gives force and tone to his compositions, power in leadership, and enthusiasm to whatever he engages in.

A round, muscular body and head and oval face will exhibit the sort of time which requires smooth, gliding, rhythmic motion, as in the melody of music, the flowing cadences of poetry; in rotary, gliding movements, as in waltzing; and in the periodic revolutions of the motions exhibited in athletic sports, as in gymnastics, ball-playing, rowing, and in acrobatic exercises. Those who exhibit this form enjoy time marked by musical instruments, and as this system is usually accompanied with a good musical ear it can be turned to account in telegraphy, in the use of electrical instruments requiring a keen ear for periodic and mechanical sounds. In combination with a good brain and nerve system, ability for musical composition is exhibited; also, surgical talent and the ability to manufacture and manipulate fine and complicated machinery, such as chronometers, watches, and other instruments.

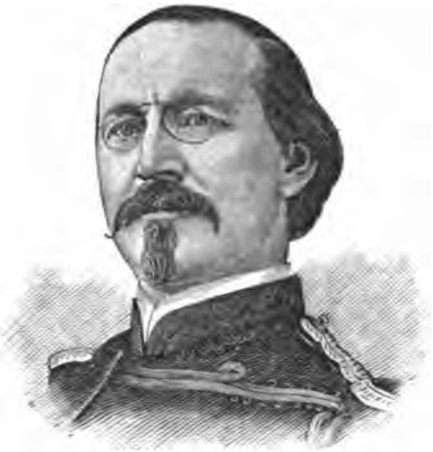

FIG. 112.—PATRICK S. GILMORE. (MUSICIAN AND MUSICAL CONDUCTOR.)

Born in Ireland. The principal facial signs are Time, Music, and Executiveness. The law of the straight line and curve governs this face. To great musical ability this subject combines large Executiveness, shown by height of the nose at the sign for Executiveness, also by its large size and width. The signs for Time are well marked,—the rounding of the head, cheeks, chin, jaws, and ears shows the presence of muscular time, while the large nostrils and arched chest show the sort of time that inheres in the thoracic system; these two kinds of Time, combined with Music in the degree which this subject illustrates, produce the ability for leadership in the direction of musical companies, as in bands orchestras, etc. The chin shows average Firmness, and Conscientiousness. Love of Home and of Country are well defined; so, also, are Self-esteem, Friendship, Benevolence, Alimentiveness, Amativeness, Mirthfulness, Color, Pneumativeness, Resistance, and Approbativeness. In the nose the signs for Ideality, Hope, Acquisitiveness, Constructiveness, Veneration, Executiveness, and Self-will are marked. Form and Size are large. Language well defined. Weight, Locality, Calculation, Memory of Events, Intuition, and musical judgment are large.

The sort of time which is inherent in the thoracic system is exhibited by the regular periodic movements of the heart, the lungs, the stomach, the diaphragm, the circulation, and the pulse. This phase of Time is related also to the periodic movements of the body, as in breathing, walking, speaking, singing, oratory, etc., and to the periodicity of that part of the process of digestion which is performed by the stomach and intestines, and which causes regular contractions of the muscles during stomach digestion, termed "peristaltic motion." The thorax co-operates with the motive apparatus, the muscles and bones; also with the emotions, and enables the orator, the singer, the musician, and actor to express their feelings in a forcible and energetic manner, and to render their songs, speeches, and music with correctness of *time* and rhythmic flow. All great or good speakers exhibit a fine development of the thoracic system, and an arched form in the chest and nose more éspecially. It is this system that regulates the pauses in conversation by co-ordinating articulation with respiration.

The kind of time displayed by the vegetative system, or globose form, is infantile, and is analogous to the form of the earth before it took on its present defined shape, and began periodic revolutions and *exact motion.* It is also analogous to the fluid, watery condition of the primitive earth, and also of man in embryo, while he is living an embryotic or fluid life. As an infant he exists upon fluids, and pays no attention to any kind of time except in his physical habits, and these are not marked by any great degree of regularity; hence, the vegetative system and form exhibit less of the time-keeping faculty than the other systems, because it is less well adapted to the purpose. Time in vegetative individuals is expressed more in a purely physical manner than in any other way. The element of Time in the vegetative system is manifested by the periodicity of gestation and menstruation, also by that part of the digestive process performed by the intestines. The function of assimilation is almost always in a state of activity in this portion of the digestive tract, for the intestine is the functional and form-anologue of the primitive animal, the gastrula, and this function in all low animal forms is always in a state of activity, and the periods of absorption and digestion are not at all precise and defined, as with more highly developed animals that subsist mainly upon solids; hence, those persons whose bodies contain more fluid than solid material are unable to observe exact and periodic movements of the body and mind, for fluids are shifting and unstable, as are the vegetative men and aquatic animals. The higher muscular and osseous animals are excellent observers of time and rhythmic motion as naturalists have observed. The bladder, the kidneys, and the numerous glands are included in the vegetative department of the body. The action of all these organs is not as periodic nor as exact as are the movements of the heart, the stomach, and lungs; hence, where the vegetative system is dominant in an individual, Time in all its phases will be more feebly manifested than in the other systems. The effect of an admixture of the vegetative system with the muscular is to *soften* the tones of the voice and to modify somewhat the play of the emotions, but Time must *have the assistance* of a material which is susceptible of *regular automatic movements*, *like muscle*, and this property liquids do not possess. The globose form shown by the primitive cell in animal and vegetable tissue is characteristic of the forms of vegetative people, of the form of their head, forehead, cheeks, eyes, hands, and body, and this form is the typical form of *undevelopment*, whether of the earth, the vegetable cell, or the infant or vegetative adult. Not until organisms have arrived at a certain degree of *stability* and *coherence*, by the process of evolution, are they capable of *precise*, *periodic* movements, and consequently are not capable of observing time, and this accounts for the lack of the observance of set time, of the lack of promptness and punctuality in the vegetative classes of beings. All matter such as fluids, which are not capable of moving as are solid bodies, observe molecular motion merely, and the glandular system, which is part of the vegetative system, keeps up unceasing action and movement in the exercise of its functions, an instance of motion without *precise* periodic limit or law. The main exhibition of time exhibited by vegetative people is the promptness which they show in appearing at table and in going to sleep.

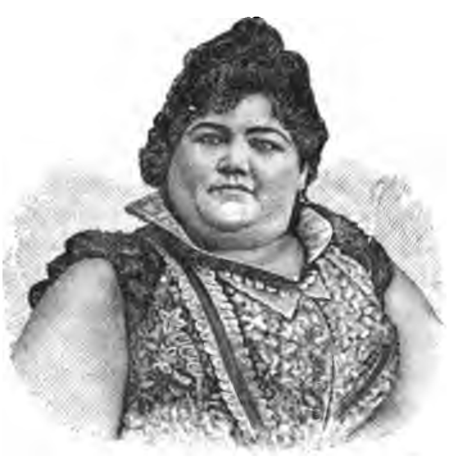

FIG. 113.—MISS IDA WILLIAMS. ("THE DIAMOND FAT LADY.")

Born in Ohio, 1865. Weight, 406 pounds. This face illustrates the vegetative or feeblest phase of Time. The law of the globe or sphere governs this subject. It is plainly discernible that one endowed with such an enormous weight of adipose tissue would be wholly inadapted to keep time in marching or to be prompt and punctual in business or precise in habits. This organization shows the sort of time best adapted to repose, to physical life,—to eating, drinking, and sleeping. This subject possesses an amiable, mirthful disposition. All of the vegetative faculties and functions are well developed. Benevolence, Love of Home, of Country, and of Young are manifest. Alimentiveness and Bibativeness are very large, while the social side of her nature is equally conspicuous. The signs for Approbativeness, Friendship, and Mirthfulness are very noticeable. Color and Modesty are well marked. The sterner faculties, such as Firmness, Conscience, and Self-esteem, are not largely developed, while Cautiousness and Pneumativeness are below the average. Were her breathing powers greater she would accumulate less fat. The nose shows artistic tastes of an ordinary sort, among which Music is dominant.

In order to fully comprehend the scope and meaning of the faculty of Time, we must not only trace it to its physiological source in the human organism, but, going farther, we must examine briefly the manner in which Time manifests itself primarily, and analyze its elements. The principal element in Time is motion,—that which is caused by the movements of our solar system. The rotatory motion of the planet upon which we exist produces *rounded* forms in almost every organized thing in existence; hence the effect which the progress of time has upon the human system is to *curve* or round the body, the head, the eyes, and limbs of man and other objects. This curving or rounding is in harmony with the shape of the earth itself, which is spherical. A *rounding* form is the only one which could move forward smoothly by the impetus of its own shape, and revolve in a *circle* and return periodically to the same position in space. Throw a ball and it describes an arc of a circle invariably. It follows a geometric law, and describes the *form of a curve* through the air. Now, in order to understand Time as an elementary faculty in man, we must comprehend the fact that the forms of man are produced by the revolution of the earth, and are caused by motion, and *reveal* their origin if we only take the trouble to analyze the source of motion.

The primitive form of all animal and vegetable tissue is cellular or ovoid; even the ultimate atom of the minerals, in a state of incandescence, is ovoid; but in its *perfection* it assumes *angles*, and this form gives *trueness*, *regularity*, and *precision* to everything which takes on the angular form; hence, the primitive form is ovoid; the more perfected is rectangular or square, like perfected mineral crystals. Lines and angles serve to mark space and distance, and are related to numbers. Time and Number, or arithmetical calculation, are closely related, and Form, Number, and Motion are synonyms in their ultimate analysis. Those persons who have a fine endowment of Time possess the capacity for arithmetical or geometrical science. The best calculators and geometricians exhibit a blending of the ovoid or brain form with the square or osseous form and the muscular or round form, thus including in their personality all the important principles of Form which are essential to the exhibition of arithmetical powers and geometric forms.

The prime factor in Time is *motion*. It is Motion which creates Time, and all that flows from it. The action of Time is universal and all-pervading in its operation. It not only regulates the movements of the earth and the entire solar system, but it controls, as I have shown, the higher faculties of man—his brain, his eye and ear, his heart, lungs, stomach, and intestines. It also regulates the periodicity of the digestive apparatus and the reproductive and the nervous systems.

Another element of Time is its rhythmic motions, as in the synchronous movements of the heart, lungs, stomach, diaphragm, circulation of the blood, and co-ordinated movements of the pulse.

Another phase of Time is exhibited by the brain and nervous system, the motions or tremors of which are of almost incredible rapidity. The most celebrated anatomists and physicists have employed their highest faculties and the most ingenious instruments in investigating the action of this complicated system, and their labors have given us a most comprehensive idea as to the functional action of the cerebral nerves and nerves of sense.

The foregoing analysis has shown us that Time is an element of all created things, hence one most essential to our welfare. It can be cultivated to a marvelous extent in all its numerous manifestations. Civilization, in affording many artificial assistants, has deprived us of many natural powers, and as man is so conveniently supplied with time-pieces he depends almost exclusively upon them for knowledge of the time of day and night, and also to regulate his habits of eating, sleeping, etc., whereas he formerly trusted to the rising and setting of the sun, and the position of the sun, moon, and stars, and to the regularity of his physical habits, for guidance. Consequently, this phase of the time-sense has deteriorated.

Time is a separate and distinct faculty from tune, for many persons are without the sense of tune, yet exhibit an excellent sense of time, while many excellent musicians and singers are obliged to practice Time most assiduously in order to acquire sufficient proficiency to sing and play correctly. I have met those who could dance in perfect time, and who possessed a fine sense of time-telling by the positions of the heavenly bodies, both night and day, who yet could not discern one tune from another, except to know that very slow tunes were generally hymns or psalms, and that quick tunes belonged to secular music. One case came under my observation of a gentleman so deficient in tune or vocal sound that it was with the greatest difficulty that he could learn to pronounce a word which was new to him, yet he showed great capacity for Time, being prompt and methodical in his habits, and could keep time in walking and dancing with others perfectly. Tune and Time both manifest themselves by motions, yet are quite distinct. Music, whether used as an art, as in singing or playing, or as a science, as in composing, is based on numerical demonstration, and we accordingly find the faculties of Calculation and Time large in musical composers, and in all really good musicians and singers.

It is not alone in music that the sense of Time is needed, but in many of the sciences and mechanic arts as well. It is of great value in the manufacture of watches and chronometers, in the comprehension of historical or domestic events in the order of their succession, and in contemporaneous history and occurrences. Time is of infinite service in the setting and running of machinery which demands exact periodicity or rhythm in its operation. The poet must possess an innate and spontaneous sense of rhythm, or his verse will be lame and halting. A fine sense of this faculty must be had by the dancer, athlete, acrobat, tumbler, turner, oarsman, ball-player, skater, and juggler, for the measured movements of all these sports require a keen perception of the rhythmic department of Time. Business men need the sort of time which enables them to keep engagements and be punctual in all their dealings. The best housekeepers and cooks require and exhibit this sense in a high degree. A home kept without reference to specific times for meals and for other domestic duties is a poor institution.

Time is closely connected with Order, and these two principles control the universe. Characters devoid of these two elementary principles are poor indeed, and will always be at a disadvantage unless remedied. These defects can be remedied by persistent effort and the use of a time-piece. The method to be employed in improving this faculty, when defective, is to *time* one's self in every act. Use a time-piece constantly, and appoint a set time for certain acts and duties, and bring the *conscience* and memory to bear upon the fulfillment of them. Where one faculty is deficient, other faculties must be used to back them up and supplement them. In this way many defects can be so strengthened as to enable one to perform the duties appertaining to them in a very commendable manner. *Too great reliance* upon watches and clocks weakens the *natural power* of the time-observing sense; yet when one is interested in work or study, close attention weakens this power, as all the attention is concentrated upon the work in hand. In an outdoor life a reliance upon the appearance of natural phenomena takes the place of time-pieces, for the mind is on the alert and interested in the external works of Nature; hence one leading a free life, close to Nature, will cultivate this sense by natural methods, but civilization and city life require other aids.

In all good mechanics, naturalists, physicians, and scientists, Order and Time, in some of their aspects, are found to be well defined. They are essential to all these classes. Physicians must be able to tell by the measured beat of the pulse and heart whether they make "healthful music" or not, and in the rhythmic movements of the lungs his sense of Time must be so exact as to enable him to detect every little variation of movement. *Charging the mind* with the desire to awake and arise at a certain set time soon becomes a fixed habit, for the automatic action of nerve-matter is powerful, and, as I have shown that the *principle or essence* of this faculty is inherent in every department of the human body, it is thus clearly proven that each system of functions can be brought into requisition in the several uses of this faculty. The brain, for remembering times and occurrences, and for reminding us of appointed duties; the muscles, for keeping time in marching, in singing, in walking and running, in oratory, and in the pauses of conversation, etc., and each of the other divisions of the body furnishes its own peculiar phase.

The right use of time should be studied, and all waste of the short amount of time allotted to us upon this mundane sphere should warn us to use every moment in such manner as to gain from it the greatest good. Time is the most precious of all our gifts, and parents should inculcate in their children this first most important lesson, that "lost time is never found again." Almost anything else can be replaced, but lost or misused time never.

All property is the result of two of the most precious and important things in the world, viz., Human Life and Time. How essential, then, that we should be intelligent enough to adequately prize these gifts! Property, or capital (other than land), is the stored-up increment arising from the youth, health, energy, integrity, and *time* of human beings. How necessary, then, is that "enlightened self-interest" which shall teach us how to conserve time in such manner that all shall have their fair share of its products! For to take the bulk of the time and life of the many and to give its products to the few is a most pernicious and sinful use of those elements. The revolutions of this orb upon which we live will doubtless (under the all-powerful law of progressive evolution) bring about such reforms in this direction as will remedy this terrible system of high-handed theft—of despotism, ignorance, and barbarism. These reforms may come peacefully in the regular course of evolution, or they may be precipitated upon us like a cyclone, and those who block the wheels of justice will be overtaken by a terrible retribution. It is the duty of all to examine this question, and ask, "Am I enjoying wrongfully the fruits of others' time and life?"

Eternity.—The principle of Time is adapted to eternity as well as finite beings can comprehend that idea. The mechanical construction of the solar system gives us the best idea of never-ending time. We cannot conceive of a system which exists by virtue of its rotary motion through space coming to a sudden standstill, or pausing for an instant even, for this would disturb the existing order of every atom involved in the construction of this mighty system; hence, our understanding must be limited by the most comprehensive system of which our sense takes cognizance. All the forms which meet our vision and all the analogies of Nature tend to the idea of eternity, but the time which is allotted to each one of us *here* should be so used as not only to make our pathway pleasant and happy in this term of existence, but also to assist the next phase of life in its onward march to a higher evolution. *A right and conscientious use of time here* will prepare us for any other phase of existence, and if we put all our energies into following *the laws* in this life we need not trouble ourselves at all about the next one; we shall be ready for anything that comes.

The preceding ideas in regard to Time teach us that motion is the basis of Time, and in all our acts which are essential to life, to business, to art, science, mechanism, or government the elements of Time and Motion come into operation. As we proceed to the investigation of the higher mental faculties of man, viz., Order, Calculation, Comparison, Causality, Prescience, and Intuition we shall observe a closer and closer relation to the great chain of complex laws which originate in the motions of the planetary system, for we shall find that they are based on Calculation and result in Form. The lowest or primitive faculties and their associated functions—those of absorption, assimilation, growth, reproduction, etc.—exhibit all the processes of molecular activity, the phase of action or motion which is paramount in cell-life, germ-growth, or in infantile life, and is hence characteristic of primitive conditions. Now, molecular activities are those which were instrumental in forming the nucleus of our planet when it first began to take shape and rotate, and if we follow closely the evolution of all growths we shall find that molecular motions are primitive, and that the vibrations observed in primitive growths are typical of the vibratory rhythm of the planet upon which we live and which necessarily sends its every principle and element up along the course of evolutionary progress and development until the end and aim, the climax, the *microcosmos*,—man,—is reached and perfected. *We are one with the earth*, and every vibration of this mighty planet, with the swing and rhythm of all the great celestial orbs in space, is echoed back by the same rhythmic motion in our organism, and with the same resultant harmonies.

Prophets, seers, poets, and philosophers of ancient times foresaw, sung, wrote, and reasoned in a childlike way of all the great principles and laws which modern science is demonstrating to a certainty in a man-like way. We are surely made of the "dust of the earth," and all the elements and principles which inhere in it are inherent in us, and no principle is more marked or more powerful in its effects upon man than the elementary principle of Time.

The combinations which are observed in those whose professions are based on Time are, of course, different in degree in each case. Astronomers require a certain degree of at least three phases of Time. They should possess the sort of time which inheres in the brain system, thus giving them the ability to comprehend laws and principles and to enable them to reason from cause to effect, together with that phase of time which attaches to the chronological order of events of successive periods, past and to come. They must also exhibit the kind of time which is evolved from the osseous system, conjoined with the muscular, the arithmetical in combination with the mechanical. Now, these three phases of the faculty of Time are found in the structures of all good astronomers, physicists, surgeons, chemists, architects, and those of similar pursuits. Examine, for example, the portraits of the Herschels (father and son), Arago, Copernicus, Tycho Brahe, Encke, Biela, Donati, Huyghens, J. C. Adams, Le Verrier, Professor Olmsted, and Maria Mitchell, all noted astronomers. In all these the brain system is dominant and the muscular and osseous nearly equal, while the thoracic is in varying degrees in each. Sublimity is immense in the physiognomy of Sir John Herschel, and this faculty gave him the capacity for comprehending the grandeur and vastness of the great systems of worlds in space. Good arithmeticians and physicists must also possess large powers of computing Time, for Time and Number or numerical calculation are synonymous. Accordingly, we observe in the faces of Professor Helmholtz, John Tyndall, Volta, Ampère, Oersted, Professor Faraday, Sir Humphrey Davy, Liebig, John Dalton, Berzelius, Gay-Lussac, Dulong, Prof. A. W. Hofmann, Sir David Brewster, Chladni, and Sir William Thompson (all physicists in various departments of physical science), diverse combinations of, at least, the three forms of Time which are evolved from the action of the brain, the muscular, and osseous systems. All good mathematicians reveal in their countenances a combination of these same systems, and are thus enabled to comprehend the laws of number. And all sciences have, as a basic principle, the element of Time, for all laws relating to every science whatsoever are expressed either in terms of Form or Number, or both.

For purposes of musical composition there must be a good degree of the brain, the muscular, the thoracic, as well as the osseous, systems to give the several kinds of time which are used in musical composition. A chemist must possess an excellent osseous frame to give justness and accuracy to his conceptions of quantity and number, while physicists who deal with the elements of air, water, ether, gases, fluids, and minerals must possess a fine sense of various sorts of Time and a good degree of the faculty of Calculation.

The faculty of Color has considerable effect upon the sense of Time, for, as I have persistently shown, Color is as universal and all-pervading an element in Nature as in Time; hence it affects every material object. The scientist, naturalist, and mathematician who is deeply colored possesses a more decided and definite sense of Time than he who is pallid and greatly lacking in color. It is true the eyes of many good mathematicians are of a bluish gray, but this blue shade is a color which shows coolness, and coolness is favorable to numerical calculation. Yet scientists, in order to excel, must inherit the Color sense in a fair or large proportion, and the more decided the blue shade in the eye of the mathematician the greater his power as compared to the one in whose eyes the white tint predominates over the blue shade.

Animals of almost every grade exhibit various phases of the time-keeping sense, and in this department naturalists have made numerous investigations which have resulted in finding that the sense of Time is as wide-spread among the animal races as among the human races, and that the sense of Time is superior in the higher races of animals to that observed among the lower races of men. In the first place, many animals, even of low degree, exhibit the *instinctive* knowledge of the time appointed for feeding them. This results, probably, from the sensations arising in the vegetative system in the intestinal tract, and this, the lowest form of the Time sense, is common to all animals who have an appointed time for eating and drinking. It has also been observed that many species of animals and birds have a certain set time for meeting in flocks and herds, and are punctual in keeping the appointed time; also that they have ideas of Time or rhythm, number, order, and succession of events. Dr. Lindsay, from whose work I obtain the following facts, observes that he has often seen dogs in Scotland, who had been in the habit of attending church with their masters, go without them on the return of the Sabbath and remain the allotted time, seemingly as much benefited as if their masters had attended and "napped" with them. Hogg, the "Ettrick Shepherd," relates an instance of a Scotch collie who, upon hearing his master lament that there were three flocks of sheep lost, went, without being ordered, in quest of them, and in the dark, and collected the whole seven hundred; and another dog, overhearing the day when his master was expected home, never failed of going to meet him. As low down in the scale of animal mind as the ants we are told that they send messengers to call up an army, and communicate the *time* for assembling at an appointed rendezvous.

The capacity for *measuring time* is possessed by domestic animals, such, for example, as the cow, the horse, the dog, the cat, and birds. These creatures note the duration of time from one meal to the next, keep account of their master's meal-times, and have a fixed time for rising and sleeping. Many work co-operately;

that is, in companies, as a gang of human laborers under similar circumstances.

The annual and semi-annual migrations of fishes and birds reveal a fine sense of the time-keeping faculty, and in this circumstance the effect of reason is shown, at least, in the case of many of the bird species, for this periodic journey is not undertaken, as some would have us believe, under the influence of "blind instinct," but is *timed* in accordance with observations made of the weather, and their hegira to other latitudes is made in accordance with the meteorological conditions and not in a "blind instinctive" manner, else it would take place always upon the same day, hour, and minute. An animal is no more an automatic machine than is a man. We are both *limited* by our nature and environment. Man can only do certain things in a certain defined way; in this respect he is a machine the same as an animal: "To do more we must be more."

The above facts in regard to the Time sense in animals I gather from a work entitled "Mind in the Lower Animals," by J. Lauder Lindsay, to whom the whole world is indebted for a most valuable collection of *facts* in regard to the animal mind. I have not space to analyze minutely the origin of Time in the animal mind, but suffice it to say that they observe all the phases of Time exhibited by man, and also possess the same combinations of Time, and the several phases of this faculty appears in animal forms similar to those exhibited by human beings.

ORDER.

MENTAL ORDER:	PHYSICAL ORDER:
Derived from the Brain and Osseous Systems.	Derived from the Muscular and Thoracic Systems.

Definition of Mental Order.—Precision in arrangement of ideas and articles; method, system, regularity, conforming to law, rule, and custom; a place for everything and everything in its place.

An *excess* makes one impractical through expending unnecessary time in arranging and classifying ideas and materials, and it engenders worriment, fussiness, and useless particularity. An excessive development of Order, when perverted by nervousness, causes great suffering at the sight of the slightest disorder.

A *deficiency* of Order makes one unsystematic in the arrangement of his ideas in speaking and in writing, and creates disorder and slovenliness in dress, and in the arrangement of furniture, books, etc.; also causes great loss of time through lack of method, system, and regularity in the details of the office, counting-house, manufactory, store, or home.

Facial and Bodily Signs.—Like all the higher faculties, Order is a trait which has its origin in universal law,—in the movements and orderly arrangement of the solar system; hence, we are obliged to seek its signs in several systems and forms of the bodily organism of man.

DESCRIPTION.—*Mental* Order is present where the brain system is *dominant* and the bones of the forehead exhibit a *square* appearance at the sides, as seen in the foreheads of Newton and Beethoven. This sort of Order is closely related to Time, and is associated with it in the mental processes of historians, scientists, geographers, physicists, astronomers, mathematicians, promoters of great business enterprises, and naturalists, all of whom require the power to arrange in the mind, in an *orderly* manner, the succession of events and laws which are related to their several pursuits. These classes of people must be able to picture mentally the *general plan*, *order*, or *system*, as well as the detail of that which engages their attention. This is what is termed "Mental Order." It is often found associated with Physical Order.

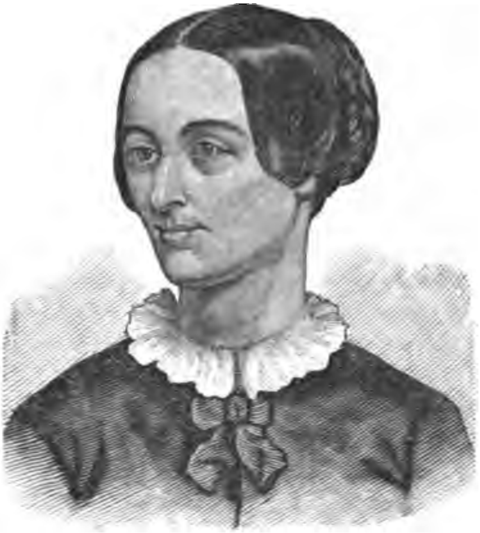

FIG. 114.—MRS. EMILY C. JUDSON.* (MISSIONARY, POETESS, WRITER.)

Born in New York. Conspicuous facial sign, Order, shown by squareness of the bones of the forehead and right-angled appearance of all the facial features. The law of the straight line and angle governs this physiognomy. The signs for the domestic faculties are large. Conscience, Firmness, Love of Home, of Country, and of Young are manifest; so also are Benevolence, Mirthfulness, Modesty, Pneumativeness, Friendship, and Approbation. Alimentiveness is not large. The mental, or brain and nervous system, is dominant. The curving jaw, full, convex eyes, and form of the nose announce literary capacity. In the nose the signs for Hope, Analysis, Ideality, Mental Imitation, Sublimity, Constructiveness, Veneration, Executiveness, and Self-will are large. Form, Size, Locality, Memory of Events, Prescience, Credenciveness, Language, Time, Order, Reason, and Intuition are all exceedingly well defined. The portrait of a modest, intellectual, courageous, sympathetic, and philanthropic woman.

Physical Order is related to the arrangement of substances, materials, machinery, furniture, books, clothing, etc., *things* more particularly, as contradistinguished from *ideas*. A square-boned form is the sign for Physical Order. Where this phase of Order is exhibited the forehead will be square, and the features set a right angles, and a precise and square arrangement of the bones of the body will be observed. The shoulders square, and the steps measured and uniform in movement like the pendulum of a clock. Where these two sorts of Order are associated the sense of Order is excellent.

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Every part of the body, by its orderly arrangement, assists man in the comprehension and use of the element of Order in his pursuits, yet it is more decidedly expressed by the dominance of the brain form and of the bony form than by the others. The ovoid form being the analogue of the infantoid or primitive shape is the *originator* or beginner of the *ideas* of systems and plans; while the more perfected or angular, rectiform shape of the bony system is the analogue of precision,—of orderly arrangement of *substances*, as illustrated by the rectangular form of the mineral crystal, of which the bone is mainly composed.

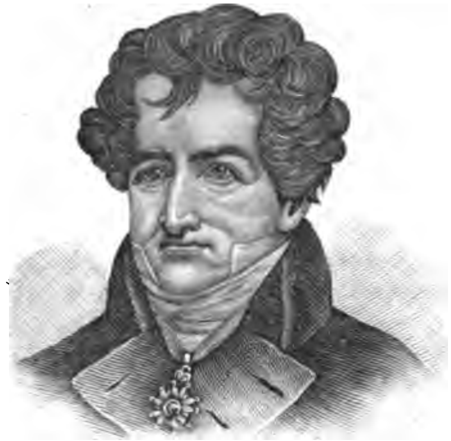

FIG. 115.—BARON CUVIER. (NATURALIST, AUTHOR, LECTURER.)

Born in Alsace, 1769. Conspicuous facial sign, Order, shown by squareness of the bones of the head, and a precise, orderly, and right-angled appearance of all the features of the face. This remarkable countenance reveals one of the most eminent historical characters. The domestic nature is highly developed. Conscientiousness, Firmness, Patriotism, Benevolence, Love of Home, Love of Young, Mirthfulness, Approbativeness, and Friendship are well defined. Self-esteem is not large; Amativeness, normal. The nose is high, long, wide, bony, and broad on the back; in it are the signs for Analysis, Mental Imitation, Sublimity, Ideality, Constructiveness, Veneration, Executiveness, and Self-will most uncommonly prominent. Form and Size are extraordinarily large. So greatly developed were these faculties that he could, by inspection of a small protuberance on a jaw or a tooth, tell to which species of animal they belonged. The superciliary spaces are wide, and give evidence of artistic talent. He was a fine draughtsman. Calculation is large; so, also, are Observation, Locality, Prescience, Order, Language, Time, Music, and Reason. The signs for Intuition and Memory of Events are wonderfully manifest. Altogether a perfect specimen of a "thoroughbred" man.

The squareness of the osseous system causes its possessor to be orderly and methodical by virtue of his formation, and this formation of the bones of the forehead has given rise to the phrenological error and assumption that this peculiarity is owing to the presence of an "organ" composed of brain-matter, bulging out at this particular spot. Now, the good observer can just as well find the indication of the presence of Physical Order by an examination of the *first joint of any finger* as by an examination of the forehead, for an orderly person will present *squareness* of the *bones of the finger* as well as squareness of the bones of the forehead. In this case we should be just as well warranted in asserting that this peculiar formation of the finger was caused by brain-matter, as we are to assume and *assert* this of the forehead These square appearances both of brain and finger are derived from the same source, viz., from a *square formation of the bones;* and squareness of the bones gives rise to that sort of Order which is used and required in all scientific and mechanical pursuits.

Order, like Time, is derived primarily, as far as we can comprehend it, from the regular order of the solar system, and all the principles observable in that system inhere in every atom of organized matter, and come up into man's organism along with the primitive elements of which he is composed. This is how we get the faculty of Order; and thus we have the two very distinct kinds of Order which show themselves very plainly *in the form of man* as well as in the acts of man, and his *form* and *acts* will be found to *agree in every instance.*

The round-built, muscular person exhibits a different sort of Order from those previously described, while the vegetative individual possesses and exhibits less than the others. The round-formed man exhibits his Order by regular, automatic revolutions, by circular and circuitous motions. A free, round body in revolving, continues to move in circles, and never revolves over the same space, but moves in a spiral circle; hence, round-built persons are never as angular and precise in their arrangement of thoughts and things as are the higher formations. The sort of Order exhibited by the round, muscular person is adapted to art-works and to the comprehension of natural or primitive laws, and where a good brain system is conjoined with the former we find the ability to comprehend and illustrate the order of revolving bodies, as in astronomy and in mechanical principles; also the order of cycles and circles,—of recurring periods of time, weather, seasons, etc. Many of our best historians exhibit this formation and thus show the use of this combination in art, for this class of writing is an art mainly.

Where the muscular system is the dominant system, and the brain system subdominant, in an individual, he will use the sort of time required in music, in marching, in waltzing, and in those *free, revolving movements of the body which require periodic automatism*, unlike the angular movements which the square-built man exhibits.

System is Order on a large scale, as, for example, the comprehension of the orderly arrangement of the solar system or the orderly arrangement and classification of the fauna and flora by naturalists. Order leads one to be exact in the detail and minutiæ of placing things, both great and small; while system lays out the ground or *fundamental* plan, laws, or motions, and the smaller details are elaborated and supplied by others. And this accounts for the apparent discrepancy (as it seems to some) of those persons who are skillful in planning and arranging broad schemes of work and business, or in classification, but neglect the details. This class of minds possess system without order. System requires the use of the reasoning faculties. On the other hand, many persons exhibit a high degree of Order yet lack System, and work by paying attention to trivialities and petty details, being wholly unable to originate or put in use a broad and comprehensive system of action.

Nearly all persons, except the purely vegetative, possess a certain degree of *more* than *one* sort of Order, for the *combination* of brain, bone and muscle produces one sort, while another kind is shown where the bony system is predominant, the brain system second, and the muscular system third in the degree of development. Another phase of Order is exhibited where the muscular system stands first, the brain second, and the bony system third. This combination is a good one for singers and acrobats. The first mentioned is found among astronomers and certain classes of scientists; while the second is an excellent illustration of the sort of Order observed in mechanicians.

The presence and effect of Order is apparent in all of Nature's operations: in the succession of the seasons; in the regular order of seed-time and harvest; in the time for leaf, bud, flower, and fruit; in the succession of day and night, summer and winter; in the order shown in the evolution of man,—in his embryotic life, then in his birth, infancy, youth, manhood, old age, and then probably re-birth in another sphere, and still farther evolution and progress there, for, if we observe the progressive tendencies of Nature we must become fully convinced that nothing stops or comes to a standstill. Order is not only "Heaven's first law," but it must be the law of all who desire success in anything. Even idiots have been known to exhibit a wonderful degree of Order and of its associated faculty, Music, of which "Blind Tom" was an illustration. It is related of a savage or wild man, discovered in a forest in France, that he could not bear to see a chair or other article of furniture out of place, and when he found anything in a different position from that to which he had been accustomed to see it, he immediately arose and arranged it in its wonted place.

The automatic movement of the fingers in playing musical instruments is an exemplification of the effect of Order,—muscular Order; for, after repeated exercise of the fingers in a musical composition, the player can reproduce the same exercise mainly through the automatic action of the fingers, which follow the same order of succession as when guided by the notes. This form of Order is best observed where the muscular system is dominant. Many persons with a good bony form, and orderly in the arrangement of books, clothes, and furniture, lack the ability to play by rote unless the notes are in sight. This defect arises from a lack of that degree and quality of muscular development which gives the ability to express automatic Order.

Many persons possess Order to the degree that would justify one in designating them "painfully orderly." This is apparent in many housewives, who are so exact and fussy as to make a visit to them anything but an enjoyment, as they seem to be greatly pained at even a momentary displacement of chairs, furniture, or other articles, and pass all their time during the visit in putting in order every book, tidy, chair, and article used by their guests. Such women make home anything but happy to their family and friends. When the nervous system of this class of people becomes disordered, the result is quite painful, causing great suffering at the least disorder, and rendering its subjects almost insane. Some men, too, possess this "painful" degree of Order, and I have heard of a man in whom this faculty was so excessive as to cause him to paint the shape of his saws, hatchets, files, and other tools, upon the wall against which they were hung, for fear a stranger might use them and not replace them on their accustomed nails. This plan he adopted to insure perfect order.

The cultivation of this trait is very essential. It can be developed in youth by a quiet persistency on the part of parents, in the house and store. Children should be compelled to hang up their clothes before retiring, and fold and put away everything they use; and parents who take this task upon themselves are censurable, for such a course not only weakens the faculty of Order, but teaches children to be indifferent to their parents' welfare. Neglect in the cultivation of Order in childhood incapacitates men and women for many useful pursuits. There is no business, either mental or manual, but requires a large exercise of Order. In the school, store, factory, office, and counting-house, it is most essential, as well as in the home. The time lost by careless slatterns in looking for what is mislaid is often sufficient to do their entire work. Things that are habitually mislaid never get the proper care through being inappropriately placed. They are put in positions where they receive injury. Books, clothes, and tools left out-of-doors get wet and are injured, or are carried away by dishonest persons, and every article left out of its proper place deteriorates in some way by such neglect; hence, Order represents time, labor, and money, while disorder consumes all of these by its destructive tendencies.

One of the most striking and wonderful evidences of the reign of law by system and order in detail is exhibited in the arrangement of the mechanism of the human body, and is illustrated in the human face. Each bone and muscle is so placed as to give the most action with the least amount of resistance or friction. Every organ is always placed in nearly the same position in everybody, and always so placed as to assist other organs in contiguity with it. In the face, the signs of character and of function present the same peculiarities. The comprehensive system or outlay of the entire man (which at the same time epitomizes the entire universe) is, in the face, made manifest. The order of arrangement in the face of the signs of faculties and functions is also proof of the theory of the progressive evolution of the animal and human mind. The localizing of all these signs discovered by me, and for the first time in the history of physiognomical research systematized and simplified, is indeed a revelation, and one adapted to the comprehension of young and old—learned and unlearned; yet without order in the placing of these signs there would be neither sense nor use in learning them. The order of development of the five systems and their signs is observed, first, in the vegetative or primitive system, and forms the basis for higher development. Next succeeding this system comes the breathing and circulatory powers, together with all the mentality which high breathing powers originate. Then follow the signs for muscle,—for art, literature, and architecture; next, the bony system begins to show its action by signs which cannot be ignored, so patent are they to all observers. The perfected brain, the latest and highest achievement of evolution, arises from this *combined physical base*, and this is sustained and nourished by the action and quality of the blood-making mechanism, for blood is the food of the brain, and without a good manufactory for this element a brain is of little account to its possessor. All these functions and their associated signs display in a remarkable manner the dominance of Order.

The vastness and grandeur of the solar system is indeed evidence of what the Creator can do on a large scale, and seems wonderful when we contemplate the magnificence and complexity of the laws involved in its operation; but to me the wonder is a thousandfold increased when I observe in the small space allotted to the human face the illustration and exposition of *all the laws, principles, properties, and qualities* which permeate and control this vast system; truly, a macrocosm within a microcosm!

Poets have appreciated this great scientific fact, and one in a poetic spirit has wrought out this idea in a single verse. Elizabeth Barrett Browning tells us that

"Since God collected and resumed in man,
The firmaments, the strata, and the lights,
Fish, fowl, and beast, and insect,—all their trains
Of various life, caught back upon his arms,
Re-organized and constituted man,
The microcosm, the adding up of works."

The reason why I consider the faculty of Order in this place—following the faculty of Time and preceding the consideration of the faculty of Calculation or Number—is because Order is a *necessary* and *natural ally to both these faculties*, and also because it is a trait derived from the brain, osseous, thoracic, and muscular systems mainly,—all high systems. Again, one sign of Order is found in the squareness of the lateral portions of the bone of the forehead, and another by the width, height, and fine quality of the frontal brain.

There must of necessity be a reason for the location and order of arrangement of all things related to man, and the more nearly these accord with natural law and classification, the more nearly is "Heaven's first law" observed. Our faculties are so arranged that the powers to discern and discover everything pertaining to man are placed in such order as will best assist this purpose.

The discovery of scientific physiognomy was so ordered that it should come in an age which was sufficiently enlightened to comprehend and apply its truths. Had it been discovered and formulated in the "dark ages," the faggot and gibbet would undoubtedly have been the portion of the man or woman who had the temerity to publish it to the world, and the same may be said of all modern inventions and scientific discoveries.

"The man is thought a knave or fool,
  Or bigot plotting crime,
Who, for the advancement of his race,
  Is wiser than his time.
For him the hemlock shall distill,
  For him the axe be bared;
For him the gibbet shall be built,
  For him the stake prepared.
Him shall the scorn and wrath of men
  Pursue with deadly aim,
And malice, envy, spite, and lies
  Shall desecrate his name.
But truth shall conquer at the last,
  For round and round we run;
And ever the right comes uppermost,
  And ever is justice done."—Mackay.

Thus we see that Order is a universal principle in the evolution of society and governments, as well as in the vegetable and animal kingdoms.

In former ages, physiognomy was termed the "black art," and its expounders were proscribed by law. So recent as the reign of King George II, an act for the punishment of physiognomists was worded thus: "All persons pretending to have skill in physiognomy are included among those offenders who are deemed rogues and vagabonds. As such they are liable to be publicly whipped or sent to the House of Correction until the next Sessions, or any less time, and after whipping or commitment they may be passed to their last legal settlement or birthplace; and, moreover, the Justice may sentence them to hard labor for not more than six months." The reader will conclude from the above law in regard to this science, that a systematized method brought forward under such laws as the above would have probably resulted in the punishment of its promoters. Under the ordering of an overruling power this was delayed until this era, wherein all scientific ideas are hailed with delight by the intelligent inhabitants of every civilized country and their expounders protected by law. Not only has this science made great advances, but other sciences have developed which have materially assisted the advancement of physiognomy. Among them I may mention comparative anatomy, physiology, and evolution. Until these and other sciences had been elaborated to their present degree of development, the *scientific* knowledge of the human face and its associate character could not have been brought forward on its present basis.

Thus we observe that the law *of orderly progress* governs the advance of human knowledge, and nothing has been more potent in this direction than the discovery of *laws* in every department of science.

The faculty of Order is by no means confined to the human family, although very feebly manifested in savage and undeveloped races.

It is exhibited in a much higher degree by many animals and insects. Most especially is it shown by bees, wasps, ants, and birds. In these creatures, as in man, it is associated with a sense of Time and Number, both as regards their sense of and preparation for the orderly succession of the seasons, as shown by the migration of birds and in the building of nests, dams, and dens as defenses against the coming winter; and here the faculties of Time, Number, and Order are associated with Constructiveness, just as in man, whose architectural skill requires this peculiar combination.

Dr. Lindsay tells us:—

> Animals possess a great degree of method, system, and classification, as is shown by the arrangement of their numbers into classes, ranks, and castes, and by the attempts of their leaders to substitute order for confusion in great crises and in panics. The republican form of government exists in a most orderly form among ants, while bees have organized a monarchical order of government, and divide their numbers into a reigning sovereign,—the queen-bee,—soldiers, workers, guards, nurses, etc., thus showing a comprehension of law, order, method, and system.

The higher animals also observe method and order in the division of numbers into flocks and herds. They have acknowledged leaders and follow them implicitly. Order in detail is shown in the symmetrical arrangement of nests and dams, in the cells of the bee and wasp, and in the dwellings of the ant and mole, which last is a beautiful specimen of architectural symmetry and order, while the order and system observed in the nest of the "geometric spider" is as perfect in its proportion as anything constructed by man. The reader may have imbibed the notion that all these orderly acts are done under the effect of "blind instinct," a term the old school of metaphysicians were fond of applying to animals, but when it is known that all classes of insects and animals often make mistakes of judgment in construction and take their buildings apart and rebuild them in a more useful and convenient manner, it is at once proven that *judgment* and *reason* have guided them, and that, like man, their judgment is sometimes faulty, which they amend, as he does, by experience and experiment. Sufficient has here been said to show that nearly all classes and races of animals possess a large share of method, system, and order, both mental and physical, and that the *same phases* of order are displayed by animals whose structure corresponds to that of men of similar form and similar anatomical development.

Those in whom the vegetative system and form are dominant manifest a comparatively feeble comprehension of Order. They seem to keep things in a confused heap, and make very odd and incongruous mixtures of articles. Their ideas and language also lack Order, and in conversation they interject all sorts of inconsistent remarks, without regard to their applicability. I have remarked the action of many housewives in whom this system predominates, and have been quite amazed in observing them put their house to rights by storing away together, in all sorts of closets and corners, articles which an orderly housekeeper would never dream of putting together. Yet the rooms at times would appear in perfect order, especially if company was expected, but if a closet-door opened unexpectedly quite a museum would be ex posed to the visitor's gaze. Vegetative people in their thoughts and acts seem to "wobble" about, and are uncertain, unstable, and confused in their plans and movements. There seems no fixity of purpose, because they are composed mainly of fluid material, and, like the waters of the ocean, they are ever shifting and never definite; hence, we cannot expect to find a high phase of either Order or Time in those in whom the vegetative system is supreme. Yet, even in this class of persons, Order can be very much strengthened by commencing early with them, and *insisting* upon their having a place for everything and compelling them to regard this law.

The exercise of the faculty of Order is essential to all the higher mental powers. In combination with Calculation, Time, and Reason, it assists the astronomer and mathematician. Combined with Constructiveness, Weight, Form, and Size, it aids the operations of the mechanic and artist. With Language, Memory of Events, Observation, Constructiveness, Locality, and Time, it is the ally of the historian and editor. Associated with Music, Calculation, Time, Constructiveness, Intuition, and Ideality, it is a valuable assistant to the composer. To the naturalist, teacher, scientist, mechanic, chemist, and physicist, Order is most essential. No high pursuit can succeed with deficient Order, for the arrangement of ideas in an orderly manner, as well as the placing and classifying of substances and articles, demands a good degree of this faculty. Form, Size, and Locality, where they are well developed, assist deficient Order and compensate one measurably for such deficiency.

The preceding statements show the origin and action of this high and useful trait. The higher an organism has evolved, the more Order it exhibits; and the lower the organism in the scale of creation, the less accurate, precise, periodic, and orderly is it in its habits, methods, and movements.

The numerous signs, together with the very diverse origin of the several phases of Order, as above described, very materially enlarges the phrenological notions in regard to this faculty and its *single cranial sign.*

CALCULATION.

Aristotle lays down the general principle of the Pythagoreans in the following terms: "Number," he says, "is, according to them, the *essence* of all things, and the organization of the Universe in its various determinations is an harmonious system of numbers and their relations."*

Definition.—The science of numbers or computation; capacity for numerical calculation; ability to keep accounts and understand numerical relations; skill in the arts of counting; addition, subtraction, multiplication, and division; memory of dates, figures, and numbers.

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* Basic Outlines of Universology, S. P. Andrews, p. 150.

An *excess* of this power is rarely met with, and, when it is, we find that it is usually the compensation for some very serious deficiency in some other department of mentality. Where the mind dwells too much upon calculation, to the exclusion of everything else, the character loses a great deal of *general power*, and the other faculties become weakened through want of use, and the mind is turned into a mere calculating machine. We rarely find, however, such excessive action of this faculty. It more often needs cultivation than restraint.

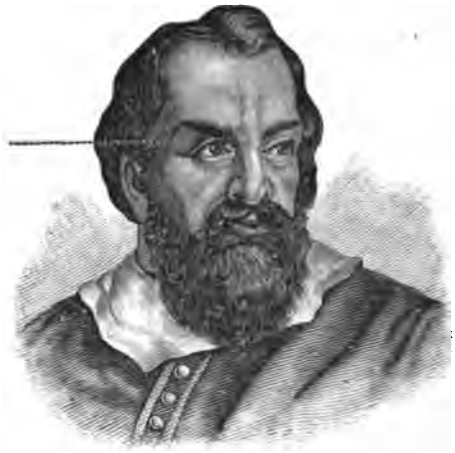

FIG. 116.—GALILEO GALILEI. (ASTRONOMER, DISCOVERER.)

Born at Pisa, 1564. Conspicuous facial sign, Calculation, shown by width between the outer terminus of the eyebrow and the outer angle of the eye. The law of the straight line, square, and cube governs this face. The Quality of this subject is very high and Color dense. The domestic and moral signs are large. Although partially hidden by the beard and moustache, the superstructure tells us this is correct. Such a nose and forehead must have a superior vegetative base from which to draw their power. Benevolence, Love of Home and Country can be seen and are large. The mouth, by its size, announces good alimentive capacity. The nose is long, large, high, broad, and bony. In it the signs for Ideality, Mental Imitation, Analysis, Sublimity, Constructiveness, Acquisitiveness, Veneration, and Self-will are large. Size, Form, Language, Observation, Locality, Weight, and Calculation are uncommonly developed. Mental Order, shown by squareness of the forehead, is most decided, while Reason and Intuition show the highest degree of development. Altogether a physiognomy of transcendent power and scientific beauty.

A *deficiency* causes one to be inaccurate in his count, reckoning, and accounts; dull and slow in arithmetic, and unable to keep the date or number of anything in the mind correctly. Calculation is easily cultivated by persistent efforts, for here Nature assists by dividing up everything in sight.

Facial and Bodily Signs. — The most pronounced facial sign of Calculation is shown by the *space* observed between the outer terminus of the eyebrow and the outer angle of the eye. This peculiarity of formation causes the eyebrow to flex upward and tend toward the upper part of the ear. This sign is found most decided in the faces of the muscular races, and of those who possess not only large arithmetical calculation, but also a shrewd, crafty, cunning, politic, tactful, and worldly disposition. The Mongolian race and face well illustrate this form and phase of numerical talent. The Celtic races also exhibit the mental aspect of this faculty. Like Order and Time, there are several manifestations of this trait. The osseous individual reveals a phase of Calculation different from that which distinguishes the muscular man. The kind of Calculation exhibited by the former is more purely mental and assists him in mechanical pursuits, while the latter is the artistic form; that is to say, the phase of Calculation which can estimate numbers and weights by sight and by lifting.

DESCRIPTION.—Calculation is a general and universal principle; hence its signs are exhibited in the higher developments of the osseous and brain systems in a diffused and general manner, rather than by any single local, facial sign. A face distinguished by squareness of the bones, with the features at right angles and width between the eyes, reveals capacity for mental arithmetic, and of understanding the relations of *figures with form*, also capacity for comprehending geometric forms in combination with mechanical principles. Where the brain is large and of good or fine quality, combined with a good endowment of square bones, a high degree of geometric calculation is present, and talent for trigonometry and mensuration will be shown.

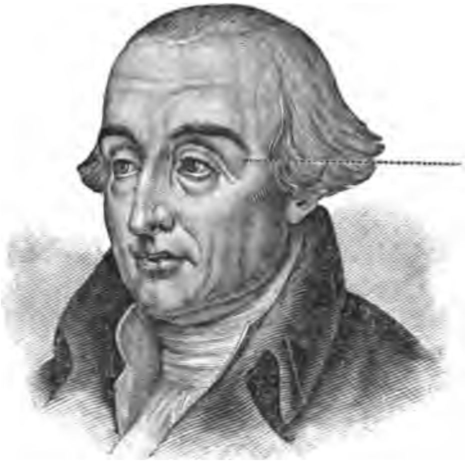

FIG. 117.—JOSEPH LOUIS DE LAGRANGE.
(MATHEMATICIAN, AUTHOR.)

Born at Turin, 1736. Conspicuous facial sign, Calculation. The law of the curve and square governs this face. The signs for Firmness, Conscience, Love of Home, of Country, and of Young are well defined; so, also, are Benevolence, Friendship, Pneumativeness, Mirthfulness, Amativeness, Approbation, Sanativeness, Modesty, and Force. Alimentiveness and Bibativeness are normal. In the nose, which is arched, long, high, broad, bony, and muscular, we find all of the signs of mental greatness. Hope, Analysis, Mental Imitation, Human Nature, Ideality, Sublimity, Construction, and Acquisitiveness are all very large; while the signs for Executiveness, Veneration, and Self-will are pre-eminent. The region about the eyes and interciliary space is noteworthy. Form, Size, Observation, Weight, and Locality are well defined. Calculation is of the highest order; while Mental Order, Reason, and Intuition are wonderfully developed. The writings of de Lagrange are not only of the highest mathematical value, but are elegantly written and presented. He well deserves the title of a "luminary of mathematical science." A noble and beautiful physiognomy.

The muscular form in excess gives the combination for pure calculation, but, when accompanied by a good degree of the brain system and fair development of bone, it manifests talent for mathematics and for calculations of the relations of circular forms and number.

The sign for numerical calculation observed in the formation of the terminus of the eyebrow being most decided where the muscular system is dominant is an excellent proof of its muscular origin. It also explodes the phrenological error that this indication is caused by a "cranial organ" or accumulation of "brain-matter" at this place. The phrenological idea of "organs" which are said to be observable on the outside of the skull is giving way to recent discoveries of "brain areas or tracts" of the *internal* cerebral structure, wherein are located the centres of motion or of impulse, which act with and for the several bodily organs and functions. The faculty of Speech, for example, it has been demonstrated beyond a doubt, has its representative in a certain area of the brain, but it is not situated behind the eyeball, pushing the eye outward and forward, as phrenology asserts. The sign for articulate speech, it is true, is shown in the face by prominent eyes, also by the shape of the mouth, lips, and ears; but this same faculty can just as well, or nearly as well, be discerned by the finger or finger-nail of those in whom the muscular system is dominant, for the reason that Language and Calculation are both best developed in those races in whom the muscles are in *excess* of the *bones*. The Oriental races, for example, exhibit large calculative powers. They also reveal great Acquisitiveness (they are natural gamesters) and other muscular traits in harmony with numerical calculation, such as diplomatic policy, craft, cunning, and deception. All these faculties are the most conspicuous in muscular races, as well as in the muscular animals, and are shown by *signs of muscular development*, and not by "brain organs" externally on the skull.

The basis of everything is (as I have shown in the chapter on the "Basic Principles of Form") mathematical or numerical. Every separate atom, article, and entity is countable, and holds its rank as number one, two, three, etc., in a certain department of creation; hence Number is a universal element and principle, and enters into *all things*. It is thus shown to be a prime and primitive element in everything, and also takes its rank among the highest and most perfected aspects of Nature, as in the completion of schemes, plans, and numbers of finished creations; for example, in the numbers of the bones, muscles, and organs in man; the numbers of leaves of plants, which are governed by mathematical precision; by the divisions of the earth into continents, islands, etc. I could pursue this form of illustration almost indefinitely, and then have made only a beginning. The science of numbers has many departments; as, for example, it commences with the primary and simplest aspect of counting or enumerating, and this is the phase first exhibited by children and undeveloped races. The latter never get beyond this stage. The Esquimaux, it is said, can count only ten; while the Greenlanders can reckon only five besides the enumeration of their fingers and toes; yet many dogs, birds, and even pigs, have been trained to count as high as sixty. Dr. Carpenter tells us that the young Yanco of the Amazons can count no higher than three.

The powers of enumeration shown by muscular races, such, for example, as the Mongolian, are extraordinary in degree, and universal among them. In their counting-houses they make use of the abacus, sliding-rule, and tallies, and other numerical instruments. This form of reckoning is a primitive one, and is used in many schools by the younger pupils in object-teaching. The other branches of arithmetic and mathematics require the use of memory and the reasoning processes.

The science of numbers seems to many persons a very abstruse and profound subject, but to others it is entirely simple. The cause of this is found in inherited differences. The capacity for pure calculation has been exhibited in early childhood by certain persons in a most surprising and precocious manner, but I believe the higher forms of number, such as those used in mensuration, in engineering, and in other departments of applied geometry, have never been exhibited by any very young arithmeticians, because the application of the higher principles of number requires the exercise of a high degree of *Reason*, and this faculty is never found greatly developed in childhood. George Bidder and Zerah Colburn were precocious arithmeticians, who in early childhood "lisped in numbers" and astonished the world by the exhibition of their wonderful numerical power; yet in adult life they were not celebrated for any very great superiority in any direction, except the power for calculating immense sums. The following account of Zerah Colburn, an American lad, who was brought to London in 1812, at eight years of age, I quote from "Mental Physiology," by Dr. Carpenter. Of the powers of this lad, which he terms most happily "numerical intuition," he states that, upon being examined by several eminent mathematicians, he gave the following test:—

> He raised any number consisting of one figure, progressively to the *tenth power*, giving the results (by actual multiplication and not by memory) faster than they could be set down in figures by the person appointed to record them. He raised the number eight progressively to the sixteenth power; and in naming the last result, which consisted of fifteen figures, he was right in every one. Some numbers consisting of two figures he raised as high as the eighth power, though he found a difficulty in proceeding when the products became very large. On being asked the square-root of 106,929, he answered 327 before the original number could be written down. He was then required to find the cube-root of 268,336,125, and with equal facility and promptness he replied 645. He was asked how many minutes there are in forty-eight years, and before the question could be written down he replied 25,228,800, and immediately afterward he gave the correct number of seconds. On being requested to give the factors which would produce

the number 247,483, he immediately named 941 and 263, which are the only two numbers from the multiplication of which it would result.

This performance in so young a child and without any arithmetical training can only be accounted for upon the theory of *instinctive powers*, and this is the basis of all musical precocity as well as poetic prodigies. The talent and genius for pure calculation, as also the talent and genius for music, is thus shown to be an infantoid or primitive trait, for neither of these arts require the co-operation of a high degree of reason, and if we understand the analysis of these two arts, and learn which parts of the human organism contribute to their exhibition, we shall find that they are both best developed where the *muscular system* is dominant. Book-keeping requires large Calculation and Order. A good mathematician must possess large Locality and reasoning powers. A civil engineer and surveyor should add to these Form, Size, Constructiveness, and Imitation, and a fine physique. And all these faculties are essential to the chemist and physicist. The greater number of engineers are men of robust appearance, and are finely organized, physiologically and anatomically. Francis Galton bears testimony to this fact in the following terms. He observes:—

> The foremost engineers are a body of men possessed of remarkable natural qualities; they are not only able men, but are also possessed of singular powers of *physical endurance* and of boldness, combined with clear views of what can and what can not be effected.*

This statement confirms what I claim, viz., that men of large and sound reasoning powers possess strong and sound bodies. An examination of the portraits of Watt, the Stephensons, Brunel, De Lesseps (the latter in active service upon the Panama Canal at eighty is remarkable), Captain James Eadds, Violet-Le-Duc, Col. John A. Roebling, Sir Christopher Wren, and Sebastian Vauban, will justify my theories on this point. Many of these men attained an advanced age and pursued their profession most industriously to the last.

Many persons of fine abilities, both literary and artistic, are very deficient in the natural comprehension of numbers, their properties, and relations. It is said of George Combe, who was eminent as a writer, lawyer, lecturer, and phrenologist, that after seven years' study of the multiplication table it was to him a profound mystery, and when he wished to pay his bills he took his money in a purse and asked each tradesman to count out the amount due him.

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* Hereditary Genius, Francis Galton, p. 333. 1871.

Among school-children there are all grades of this faculty, from the gifted genius in arithmetic down to the grade of idiot on this subject. Yet those who are entirely lacking in numbers are often extremely bright in other directions. It seems to me a lack of perception on the part of examiners and teachers to grade scholars upon their arithmetical ability alone. It would be just as sensible to grade them by an ear for music, for I think that musical ability is much more general than the calculative faculty. All these stupid and unintelligent methods will be modified and changed when teachers become conversant with scientific and practical physiognomy, for then they will be able without examinations upon the black-board to know, by *looking* in a child's face, whether he be naturally dull or gifted in this respect. A correct psychology is the first thing which a teacher should employ in commencing the education of a child. She should be able by the tone of voice, by the walk, by the attitude, the outline of the face, forehead, nose, chin, and limbs, to learn something *definite* of every scholar, and she should be also able to act upon the knowledge thus acquired.

The best time to acquire the rudiments of arithmetic and the foundation of the higher mathematics is, in early childhood, by object-lessons, even before the child is taught to read. Children can be taught by different-shaped blocks all of the principal geometrical *forms*, and a pleasant pastime can be had by them in forming the cone, cube, sphere, triangle, circle, pyramid, and rhomb out of small blocks made for the purpose; while counting can be taught by laying beans or bright-colored sticks in rows or piles. Simple addition, multiplication, subtraction, and division can be taught by the same methods, and will seem to children a pretty and interesting game. All these principles of both arithmetic and geometry ought to be understood before learning to read or before attending school. The primary colors, with their various shades and complementary colors, should also be learned in early childhood in the same manner, by colored sticks, yarn, silk, cotton, or whatever material is most convenient. It is most essential to every child's future welfare that these most important things should be learned early. They do not tax the brain at all, for this is *Nature's* method of training children, and children, if left to their own unaided efforts, always commence their knowledge of things by first observing the form, size, color, quality, and combinations of objects which attract their attention. This method is now being put into practice in the kindergarten system of education, a notable advance upon the old-time, unnatural method of teaching children to read, write, and cipher, and memorize abstract rules, long before the brain was sufficiently matured to comprehend the meaning of the language used in the explanation. The eager, expanding mind of childhood craves knowledge, and unstinted play soon palls upon them; they become restless and excitable and long for something, they do not know what. The parents, as a rule, do not know any better than the child what ails it, and so conclude that it had better go to school; the poor little creatures are packed off to some "cramming institute," where they take in allopathic doses of learning suited to mature minds, and soon a mental dyspepsia makes its appearance, and the child and parents are again at their wits' end to know what is the matter and how to remedy it. The very youthful mind should not be trained to *think* so much as to *observe.* Youth is the season for *storing* the mind with observation of facts and phenomena,—natural, artistic, and scientific. Boys should be allowed to visit factories, foundries, and all places where mechanical work is done, and the principles of machinery explained to them. Let them become educated through the *eyes* and ears, and when older and able to *reason abstractly* they will be able to draw upon this fund of stored-up observations and thus save years of time in going over the same ground. Mechanical forces are founded upon geometrical laws, and all the primary instruction that children can learn by object-lessons is a great gain. It does not tax the mind as much as reading, spelling, and writing, because geometric forms and their combinations are taken into the mind by the aid of the eyes, and require neither reflection nor study to photograph them upon the mind.

In the same manner a child possessed of musical aptitudes may be taught to play upon a musical instrument. There is no brain labor involved in this study as there is in learning to read. The practice of the piano is a mechanical exercise; a little more exact than chopping wood, but not much more taxing to the brain; and it may be made a pleasing amusement by judiciously planning the time of day to practice, which should be the morning, and only short exercises should be allowed. These and similar pursuits will allay the restlessness of very young children and really advance their education on a sound and natural basis, therefore a healthful one, which should ever be the *dominating idea* in education.

Music is based on the science of mathematics; hence the rudimentary part of it can be easily learned by young children, especially notation, together with the symbols used to designate the notes, rests, etc. Composers who deal with the scientific aspect of music exhibit fine arithmetical powers, for the complicated methods of modern musical composition requires great calculative skill. An examination of the portraits of Beethoven, Mozart, Bach, Weber, Handel, Verdi, Gounod, and Wagner disclose large arithmetical signs. Calculation is usually large in all singers, for calculation and musical capacity are both best exhibited by muscular development.

Arithmetic is the foundation of the higher mathematics, such as mensuration, trigonometry, and geometry—"that branch of mathematics which investigates the relations, properties, and measurements of solids, surfaces, lines, and angles; the science which treats of the properties and relations of magnitudes." All these require the power of logical and abstract thought. The knowledge of all the *forms* involved in the *application* of these principles is found in every article and natural object in existence, and the eye of the child cannot rest upon anything in Art or Nature that does not present a plane, surface, or angle, a sphere, an arch, a pyramid, a rhomb, a cone, a triangle, an ellipse, a circle, or sections of some one or other of these primary geometric forms, as shown in all natural growths, whether of primitive vegetable or animal cells, or in plants, trees, flowers, mineral crystals, or in architecture and art; hence, children should be trained not only to know the *names* of all these various shapes, but should be taught from natural objects, such as plants, flowers, and minerals, somewhat of the *relations of these forms.* I am all the more explicit upon the subject of training children very early in arithmetical and geometrical principles, for the reason that they lie at the base of every trade, profession, and pursuit in the world, and are highly essential to every position in life, from that of the king to the peasant. Most especially should *girls* be trained in the higher mathematics, for the reason that these studies develop the logical powers of the mind, and females need development of this portion of the intellect in order to counterbalance the excess of the emotional nature which in the majority of cases dominates the reason, hence unfits women for the position of motherhood; for the mother of half a dozen smart, bright, lively boys and girls ought to be a *good reasoner* to enable her to answer the questions which such intellects will propound—not only for this purpose, but for her *own* advancement toward attaining a balanced character.

For illustration of the facial and bodily signs of Calculation, as expressed by the combination of the brain dominant, with the osseous system subdominant, I refer here to the physiognomies of Hippocrates, of Cos, Roger Bacon, Tycho Brahe, Paracelsus, and Galileo, the two Herschels, Sir Isaac Newton, Guyon de Morveau, Benjamin Franklin, Professor Pasteur. For examples of the sort of Calculation exhibited by a combination of the brain and bone forms, equally developed, the muscular ranking third, I may point to the portraits of Michael Faraday, Joseph Black, Professor Helmholtz, and Professor Liebig; while the phase of Calculation disclosed by the development of the brain first, muscle second, and bone third, may be observed in the countenances of Descartes, Francis Bacon, Berzelius, Sir John Lubbock, Virchow, Schleiden, and others equally celebrated for the use they made of numerical calculation. The system which *dominates* will announce the *sort* or *phase* of numerical power present in the subject, and this may be known by reference to the conformation of the body and limbs, fingers, and toes, as well, or nearly as well, as by scanning the face. A combination in about equal proportions of *two* systems affords the capacity for expressing the two sorts which inhere in each; and where the third or fourth system is represented in an average degree of development, then all these *four* kinds of numerical ability will be present. Physicists, chemists, inventors, and geographers require several different sorts of Calculation; while astronomers need good theorizing powers, large geometrical comprehension, together with a large amount of pure calculation. Mechanics need two sorts, at least, and architects, surveyors, and engineers also require several phases of this faculty in order to combine the various principles of numbers in their several professions and pursuits.

Animals of the various forms exhibit the same phases of Calculation as are shown by men of similar forms and combinations of forms. They can make estimates of height, depth, width, space, and distance, and apply the muscular sense of weight in their journeys and in their buildings. Ants and bees, in particular, manifest great calculative powers in relation to construction, and constructiveness and numerical calculation are natural allies. The sense of weight is shown by the elephant and other animals; the sense of range and direction in the flight of birds, and also in the movements of the fox and hare in *doubling* upon their pursuers; while dogs have, as is well known, many phases of Calculation besides the numerical. This form of evidence of animal calculation I might pursue through every department of animal life, from the lowest to the highest. In introducing evidence of the presence of every faculty in animals which is exhibited by man, I do so for the purpose of *enlarging* the ideas of my readers on the subject of *mind* and its universal presence; also, to raise the character of animals in the estimation of man, as well as to cultivate the faculty of *modesty* in human beings who have been wont (through *ignorance* of the real source and nature of mind) to ascribe the exclusive possession of intellect to man, and to deny to beasts and insects anything but "blind instinct." All the evidence running through these pages will, I am sure, prove that we have as many "instincts" as animals, and that many of the most gifted musicians, poets, and arithmeticians—those who challenge the admiration of the world—have *arisen* to the *grade* of intellectual development which acts spontaneously (or, as we say of some animals who do wonderful things, "instinctively"), without training or forethought, as in the case of Mozart, Young, Colburn, and other precocious prodigies.

CAUSALITY.

Definition.—The cause-seeking faculty; ability to reason from cause to effect; capacity for deduction; comprehension of logical principles and their applications. The faculty which foreknows results from observation of their causes. Its possession makes one cogent, philosophical, calculative, and far-sighted as to results. It gives a desire to know the why and wherefore of all things—to sift appearances, and trace them to their origin.

An *excess* of Causality leads one to look beyond the visible for first causes, and to endeavor by insight and intuition to discover the hidden, obscure, and occult laws of Nature. Swedenborg is an excellent illustration of excessive Causality. His desire to know the origin of mental and spiritual phenomena led to very abstruse ideas in regard to both physiological and psychic subjects. At the same time, his researches brought to light many valuable discoveries, as shown in the "Animal Kingdom," but his persistency in pushing his inquiries in a microscopic fashion into the first causes of natural phenomena, together with his abstruse speculations and deductions upon them, makes his work too impractical for general use. Causation is the base of all natural phenomena, yet many of the processes of Nature are so refined, subtile, and minute as to entirely elude the comprehension of man, even when he has the aid of the most improved instruments, such as the telescope and microscope; hence, pushing investigation too far in this direction makes one's researches too profound and obscure for practical and popular use; and as man's powers and instrumentalities are limited, it seems a waste of time and talents to press our inquiries beyond the reasonable and demonstrable. One thus characterized should turn his attention to the practical and demonstrable in science, for the only medium through which knowledge comes to us *primarily* is our senses; hence, we must first bring all things under the crucial tests of sight, sound, smell, touch, or taste, before we endeavor to pronounce judgment upon them. The *base* or *premises* must first be susceptible of proof and demonstration before a verdict is rendered. If this plan is not followed the mind may be carried away by any false statement, by dogma, sophisms, and assertions unsupported by *facts* and accurate observations. To *cultivate reason* one should accept the evidence of his senses in regard to material objects, and study the truths of Nature and science, as well as the laws of mechanism as promulgated by best-known writers and teachers.

Excess of Causality is observed in those inventors who endeavor to discover the laws of "perpetual motion," and similar improbabilities. Too much Causality is quite as great a defect in a character as too little.

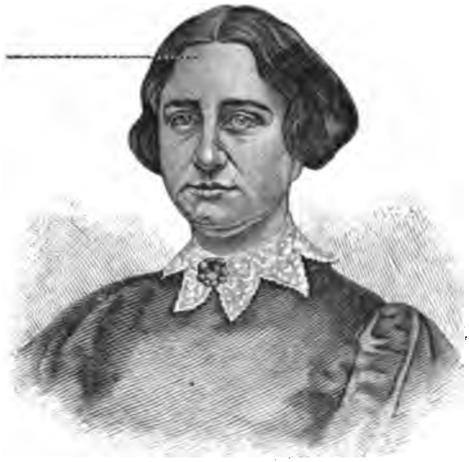

FIG. 118.—ANTOINETTE L. B. BLACKWELL, D.D. (PASTOR, AUTHOR, REFORMER.)

Born in America. Conspicuous facial sign, Causality, shown by height and width of the bridge of the nose and development of the upper central portion of the forehead. The law of the straight line and square governs this face. The signs for the domestic functions and faculties are well defined. Conscience, Firmness, Love of Home, of Country, and of Young are conspicuous, as are Benevolence, Amativeness, Alimentiveness, Economy, Sanativeness, Pneumativeness, Color, Self-esteem, Modesty, Hospitality, Mirth, and Friendship. In the nose the signs for mental power are very decided. Ideality, Sublimity, Mental Imitation, Analysis, Constructiveness, Acquisitiveness, Veneration, Reason, Executiveness, and Self-will are prominent. The signs for the practical faculties—Form, Size, Observation, Order, Calculation, Memory of Events, Language, and Time—are marked, while Comparison and Intuition are prominent. The face of a highly-organized mind and body; in it the signs for intellectual power are equalled by a fine domestic and social nature.

A *deficiency* of Causality causes paucity of reflection and leads one to depend entirely upon the opinions of others in regard to most of the affairs of life. Superstitious beliefs in theological dogmas have done much to stifle and prevent the development of a knowledge of causation. Science is doing a great work in teaching that God rules by *law*, and that certain effects are sure to follow certain causes. Where Causality is small, the inventive faculty is at a minimum, and one thus deficient has constantly to be advised, and finds it impossible to pursue any vocation which requires reflection, foresight, planning, or judgment, but, sheep-like, must "follow the leader."

Facial and Bodily Signs.—The most cogent and indeclinable signs of causation are found in the nose and forehead. The signs of this faculty that are situated in the nose are found between the sign for Executiveness and the sign for Comparison, the latter lying above on the ridge of the nose, and both of these faculties are most powerful when the nose is broad at this part, and are most effective when found in combination with large Comparison, Executiveness, and Self-will. Comparison lies adjacent to Self-will, and Causality lies next below it, contiguous to the sign for Executiveness, and both derive assistance and support from association with these two very high and superior faculties. Illustrations of the association of these four faculties are found only in the most commanding intellects, as seen in the faces of eminent scientists, statesmen, philosophers, commanders, and great artists, thus proving that the combination of these faculties (whose signs are in close contiguity) creates characters which require not only the most profound and prolonged powers of deductive ratiocination, but also the will and force of executiveness to carry out actively and aggressively, if need be, the logical conclusions of reason. Where the signs of Causality are found upon a broad and long nose, it is most effective in its action; the *length* showing *foresight* and *caution* in forming opinions and in making investigations, and the *breadth* disclosing a comprehensive mind and a vigorous visceral structure, thus giving *breadth* and *soundness* to the mental processes.

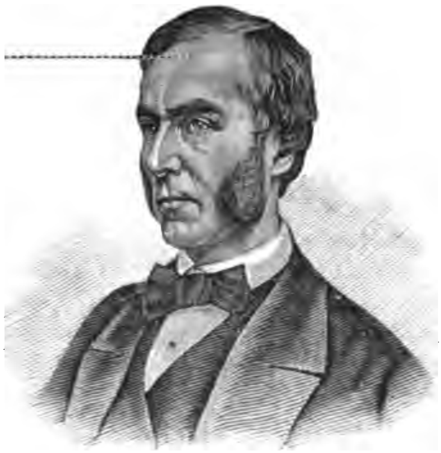

FIG. 119.—GOLDWIN SMITH. (AUTHOR, LECTURER.)

Born in England, 1823. Conspicuous facial sign, Causality, shown by height and width of the bridge of the nose and fullness of the centre of the forehead. The law of the straight line and square governs this face. This most comprehensive mind has a fine domestic and moral basis. The signs for Firmness, Conscience, Pneumativeness, Sanativeness, Alimentiveness, Economy, Love of Home, of Country, and of Young are very well defined. Benevolence, Amativeness, Self-esteem, Modesty, Hospitality, Force, and Friendship are prominent. In the nose the signs for Hope, Analysis, Mental Imitation, Ideality, Human Nature, Sublimity, Construction, Acquisition, Veneration, Executiveness, and Self-will are conspicuous. The color is decided and the quality of a high order. Form, Size, Observation, Locality, Weight, Memory of Events, Order, Time, and Language are largely developed; Prescience and Credenciveness are deficient; while Intuition is prominent, and Reason, Causality, and Comparison are of the highest efficiency. This is the face of one who is almost as good an observer as he is a thinker, and this combination of the observing and reflecting faculties has created a first-class literary luminary.

The signs of Causality in the forehead are not so easily understood by the beginner in physiognomy. Many believe that a high, full forehead is proof of the presence of good reasoning powers. Lavater observes that the highest foreheads which came under his observation were those belonging to very stupid and unreasoning persons. Height of the forehead merely is no indication of reason. *Breadth* of the forehead is a better proof of its presence. Fullness of the centre of the upper central part of the forehead is one sign of the reasoning capacity, and must be relied upon where the nose has been injured, but the nose in a perfect state is the best index; for no great or good reasoner has ever been seen who disclosed a small, depressed, or flat nose, while many persons who have very *high*, *narrow*, and *full* foreheads, are deficient in causation and comparison, and others with low, wide, and receding foreheads have exhibited extraordinary capacity for logical generalization. High, wide, and full foreheads, if of a high quality, exhibit first-class talents, and these talents are of the most *practical* kind when the forehead recedes slightly. A forehead bulging at the upper part, or inclined forward and outward beyond the eyebrows, belongs to an infant idiot, a stupid person, or one afflicted with hydrocephalus, or "water on the brain." This is the form of embryotic man, and signifies *undevelopment.*

DESCRIPTION OF CAUSALITY.—Quality is the most potent factor in deciding upon the signs in the forehead. If the quality be fine, and the signs for reason well defined, logical capacity and comprehensiveness will be manifested. More particularly is this the case where the face is of a pyriform shape, thus showing the supremacy of the mental system over all others. In this case the nose is comparatively small, yet the high quality in this instance compensates for lack of physical executiveness, as seen in the physiognomy of Herbert Spencer, for example. Here the pyriform face is associated with high quality, and the nose is relatively small. This combination discloses the capacity for clear, cogent, decisive, and most comprehensive reason; but, as he does not possess large bones and muscles, he depends upon the clearness, strength, breadth, and incisiveness of his demonstrations and generalizations; the lucidity and thoroughness of his arguments are supplemented by the most correct observations of natural phenomena, and hence are irresistible and incontrovertible.

As we approach the investigation of the *rationale* of the higher faculties, the signs and the philosophy become more complex, and we are obliged to pay attention to several circumstances in *combination* before pronouncing a verdict upon any single sign.

The bodily signs for the presence of Causality are best defined where the skin is fine and clear, the eye bright, the hair fine, and with relative width of chest and shoulders. Nothing in the human being is purely mental, nothing purely physical; hence, we are obliged to observe physiological and anatomical conditions before passing judgment on the ability of the individual to reason logically.

The superficial thinker will doubtless exclaim, "The reasoning faculties must certainly be purely mental, inasmuch as they are not dependent directly upon the senses for their power to act." To use an Hibernicism, if one could think of nothing this assertion would apply; but, as the reflective faculties are for the purpose of judging, analyzing, separating, combining, and comparing the sensations and ideas acquired through the exercise of the eyes, ears, nose, mouth, and the sensations derived from the conditions of the entire visceral system, reason must *necessarily be connected closely* with these functions, and hence it follows logically that the reasoning powers of man are dependent upon and are affected by the nature and condition of both the senses and visceral organs.

If the sense-organs are normal, and constructed in accordance with the most perfect plan, it follows that the ideas arising from the action of these organs will be correct, true, and sound; whereas, if, on the other hand, the organs of sense be imperfectly constructed as to their mechanism, the ideas arising from such imperfect organs will not possess the same degree of power, clearness, and integrity as in the former case. An excellent illustration and proof of this position is had in the abnormal condition of the color-blind individual. In his case, inability to judge, analyze, and compare colors is caused by the imperfect construction of that part of the mechanism of the eye which judges of color, the *chemical* construction of the eye being faulty. Now, this idea can be readily apprehended by this illustration, but when I advance the theory that sound reason is dependent upon a normal and vigorous condition of the visceral structures, then the question becomes, perhaps, too complex for the casual observer, however reasonable it may appear to the medical man or physiologist. I think I have made the proof of this so clear in former chapters that it seems unnecessary to here present corroborative evidence. Yet, to make more obvious to the reader at this point the intimate relation of the senses with the reasoning faculties and the bond of sympathy and direct connection of the visceral structures and states with the capacity for sound reasoning, I will mention a larger number of persons who are well known to fame as reasoners, whose bodies and faces attest this law of physiognomy. Not only this, but their countenances will show that the signs in the forehead and nose are corroborated by the peculiarities of the structure of the body, and are disclosed by depth and breadth of the chest, width of the shoulders, vigorous abdominal system, and a well-developed muscular and osseous system.

In the physiognomies of all the celebrated jurists of every nation, the faculties of Reason, of Causality, and Comparison shine pre-eminent. In nearly every instance the bodily organization and nose are on the *broad* plan, and the facial signs for breathing, digestion, etc., are corroborated by the bodily build, proving them to be of the greatest efficiency. Let the reader examine the portraits of Lord North, Earl Clarenden, Erskine, Blackstone, Ellenborough, Charles James Fox, Lord Brougham, and Justices Waite, Field, and Miller; also of other classes of reasoners, as, for example, the Herschels, Galileo, Kepler, Hobbes, Paley, Adam Smith, Dugald Stuart, Sir William Hamilton, Michael Angelo, Sir Christopher Wren, John Smeaton, John Stuart Mill, Jonathan Edwards, John Knox, Melanchthon, Sir Humphry Davy, von Liebig, Buffon, Agassiz, Metternich, Talleyrand, Pitt, Palmerston, Napoleon Bonaparte, James Monroe, Thomas Jefferson, Thomas Paine, Harriet Martineau, Sir Isaac Newton, Cuvier, Lyell, Hugh Miller, Charles Darwin, Elizabeth Cady Stanton, and Professors Huxley and Tyndall. These examples are drawn from every department of intellect and represent leading minds in science, art, theology, law, statesmanship, mechanics, generalship, etc. In all the preceding physiognomies there will not be found one small, narrow, flat nose, nor one which indicates visceral weakness. Did space permit, I might swell the list to thousands, but a sufficient number is here noted to give the reader ample scope for instituting comparisons and making generalizations. The world of thought and action has not been led by sickly, weak, ill-formed men and women. Nearly all the great reasoners of the world are distinguished as much by bodily vigor as they are by mental acumen and power. It is true that a few great minds have labored on through years of illness, and performed great works. How much greater might their achievements have been had they lived up to the requirements of hygienic law! Thomas Carlyle was a life-long sufferer from dyspepsia, yet he lived to an advanced age and performed herculean mental labors. His original inherited digestive powers must have been excellent, else he could not have lived so long in violation of health laws. His nose is one of the largest among historical characters, thus showing that his physiological structure was originally sound, but he overworked constantly, and paid the penalty of violated laws by a life of bodily and mental torture.

The process of Causation naturally precedes the other reasoning faculty,—Comparison,—for one naturally seeks the cause or origin of phenomena before instituting comparisons. Causality is found in the faces of all who excel in investigation, research, science, invention, mechanics, statesmanship, and jurisprudence. Without a germ of this faculty a race would never progress beyond a state of barbarism. Children in civilized races show the grade of evolution to which they have attained by constantly questioning, Why? How? What causes this and that? While the youthful barbarian looks with a stolid indifference upon everything which he beholds, yet not a question as to its origin or use escapes him.

The cultivation of this faculty is of great importance, as it tends to originality, invention, and individuality, for every phenomenon of Nature is related to a cause precedent to its appearance. There is not a grain of sand or blade of grass but is the result of manifold causes, one following another. Indeed, the human mind is incapable of tracing to its origin the *first cause* of the growth of a single leaf. Yet by a study of the basic laws of Form one can be assured that all things in Nature—all phenomena —have law as a basis, and that law a mathematical one. I opine that it is not essential to our welfare and happiness here to possess a knowledge of the *great first cause* which so attracted the attention of the most eminent of ancient and mediæval philosophers. Yet it is our privilege and duty to know and comprehend many of the causes which precede and affect our destiny; and if ever there should arise a *necessity* for knowing the cause of causes, we may rest assured that it will be given to the world just when it is needed and when the minds of the masses are prepared to receive it. Until then, we had best employ our time in *practical investigation* and elucidation of laws and causes which we *can* demonstrate and *apply* to matters that will advance man's welfare and highest growth.

Practicality results from a balance of Observation, Causality, and Comparison. Wisdom is the result of this combination. I have known many very wise, useful, and practical persons whose educational advantages had been quite indifferent, yet who, by the exercise of their natural reasoning faculties, excelled many book-learned persons in actual wisdom and common sense. "A meagre soul can never be made fat by studying the laws of thinking."

The form of the forehead which expresses the most practical talents is one in which the superciliary ridge is prominent, and the outline of which recedes slightly backward from the superciliary ridge, and this form is observed in the foreheads of all the great "inquirers," investigators, and mechanicians of the world. The poet and painter have not so great a need of *practical Causality* as the former; their idea of causes is bounded by the ideal, the mystic, and supernatural, hence Causation in them does not take the practical turn which is observed in the physiognomies of the former classes.

The *square* and slightly receding forehead is indicative of mechanical and scientific Causality. It denotes the *order* and *squareness* of the ideas, and in the world of science and mechanics ideas are characterized by concrete, square, and orderly methods of arrangement in harmony with the square and cube, which are the symbols of mechanics and science, and which are also the forms that underlie the "crystal foundations of the earth." Cuvier and Linnæus, both great classifiers as well as great inquirers into causes, exhibit the *square shape of the forehead.* Arkwright, the inventor, also presents this appearance, and the noses and bodies of all these individuals corroborate the shape of the forehead and indicate the possession of Causality. The "questioning temper" is largely an inherited trait, and a busy, suggestive mind leads often to great results. The aptitude for reasoning from cause to effect, as shown in geniuses of the first rank, like Sir Isaac Newton, is inborn, not imparted by education. Observation of this gentleman's physiognomy shows that the sort of Causality his mind would indulge in pertained to the inquiry into mathematical and mechanical laws and causes. His forehead is full at the upper central portion, while the signs in the nose for Causality, Comparison, and Analysis are exceedingly prominent. This organ is high, long, wide, and bony,—a first-class scientific nose,—and science depends upon the laws of logic for its demonstration as well as upon facts observed. His nose reveals the presence of all of these faculties. Observation of his nose alone, without seeing any of the connected features, would satisfy any good scientific physiognomist that it belonged to an intellect of the first magnitude. The lower part about the nostrils and septum, as well as the formation of the bridge, together with its entire outline and size, make it one of the most remarkable noses to be found in the physiognomy of the most eminent historical characters. This nose could never be mistaken for the nose of an unreasoning, illogical mind.

All those who receive as truth, without examination, every dogma, theory, and assertion which is put forth, are lacking in Causality, but those who desire the exact truth strive to learn the origin or cause of that which is asserted. Those with this faculty large place very little credence in purported "miracles" and large-snake stories, etc. They demand proof before believing; but another class, whose love of the marvelous overbalances their love of demonstrable truths and reasoning capacity, are possessed of omnivorous credulity, and, as Froude remarks, "Belief in the marvelous does not arise from evidence and will not yield to it;" so, logic, reason, or demonstration are lost on such minds, because they have not the mental calibre to comprehend them. Most of the metaphysical conjuring of the middle ages was performed by "philosophers" who lacked the balance of observation and demonstration, hence their cause-seeking proclivities were of no practical benefit, and their fine speculations and lofty theories "melted into thin air" at the approach of modern science with its instrumentalities for exact observation of natural phenomena.

The situation of the sign for Causality upon the ridge of the nose is most significant. The nasal sign adjoining Causality is the sign for Executiveness, and where this sign is well marked the character will be noted for the energy, force, and ardor with which it seeks causes, investigates laws, and analyzes theories, and having once established these satisfactorily the same energy will characterize the assertion and promulgation of the truths ascertained.

Comparison, the twin sister of Causality, is in close contiguity to it; lying just above and adjoining it is the sign for Self-will, a faculty which is of the highest importance in all mental processes. Self-will is especially necessary for putting into action any plan or idea which the reason has wrought out. In the faces of all the great minds of the world—those who have excelled through personal effort and merit—the signs of Self-will or Executiveness, one or both, are well-defined, for to reason upon a plan or theory without the power to enforce it would make reason of little account.

This group of signs well illustrates the method pursued by Nature in the arrangement of the visceral organs, those which mutually assist each other in their operation being in positions of such contiguity as to facilitate action in all, and the signs in the face of the visceral organs are grouped in such manner as to show their relationship. The signs of the mental powers also, which mutually assist each other, are found associated in such manner that they suggest their relationship.

An analysis of the components of brain structure shows that it is composed of *fibrous* membranes, vascular and serous matter, and white and gray neurine, the last also of a fibrous nature.

Scientific physiognomy teaches that Self-will is derived from the development of the muscular or fibroid system. The proof of this is found in the faces and bodies of those exhibiting the most will-power. Now, if the mental processes are dependent upon the will or volition to carry out actively their opinions and desires, it follows that those possessed of a fine development of muscle in combination with a good degree of reason will be most energetic in advancing and promulgating their ideas in an aggressive and forcible manner. I have no doubt that a dissection of the brains of those who have been active in generalship, reform, and other leading pursuits, would develop the fact that their brains were better endowed with fibrous matter than those of persons who were weak in will and deficient in force and mental courage,—so surely are force, activity, and muscle related. One of the earliest symptoms of brain degeneration in insanity and softening of the brain is the loss of will-power. While the reasoning powers remain apparently in good condition, the will or volition is observed to be feeble and sometimes lacking. Dr. Carpenter mentions the case of a gentleman whose will had become so enfeebled that he was unable to carry out what he *wished* to perform. He observes:—

> Often in endeavoring to undress he was two hours before he could get off his coat, all his mental faculties, except volition, being perfect. On one occasion, having ordered a glass of water, it was presented to him on a tray, but he could not take it, though anxious to do so, and he kept the servant standing before him half an hour, when the obstruction was overcome.*

Color has *its effect* upon the action of the reasoning faculties, as well as upon every faculty. The brain, when dissected, is found to be furnished with pigmentary particles in the gray matter, and this coloring principle is also found in all of the ganglia of the sense-organs, proving conclusively that coloring pigment is essential to all mental action. It is logical to infer that those whose blood possesses the most color would be able to furnish the brain with a superior quality of blood, and thus enhance its power. I do not recall the physiognomy of a superior reasoner who presented a pallid skin and colorless or whitish eyes and hair. Most of the great philosophers were men of fine color in the skin, hair, and eyes, and this gave force, power, and vigor to their ideas.

The reader should not confound mere questioning with true investigation. Many persons ask questions to make others believe that they desire to learn or that they are observing. When one is endowed with Causality he seeks to pursue his inquiries as far as research has carried the subject. The mere asking of questions is no sign of a reasoner. Children habitually ask questions, yet this does not proceed so much from Causality (the desire to know the *origin* of what they see) as much as from curiosity, or a desire to be entertained. Individuals with a very small amount of Reason often imagine themselves possessed of considerable power in this direction, while great reasoners reflect in so *spontaneous* a manner as not to be aware of their superiority until by comparison with others they discover the difference; they reason without effort, and so easily that it does not seem at all wonderful to them.

In deciding upon the value of Causality observed in a character one must be governed somewhat by the knowledge of the influence which other faculties in combination have upon it. Where the practical faculties are deficient, as, for example, Observation, Size, Form, Locality and Order, etc., the ideas and theories evolved will be visionary and impractical, because lacking a practical and accurate basis. If Conscientiousness be measurably deficient and Reason large, the mind is prone to believe in falsities, and to evolve unsound hypotheses and theories. There must be a *balanced* condition between Conscience and Reason in order to make use of truth in the reasoning processes. It is thus perceived that in the use of all the higher faculties of mind a harmonious or balanced condition of faculties must be present in order to make them most effective. Where Causality is large in combination with the practical faculties, the mind dwells upon the laws of Nature and of mechanism. Such minds soon learn to separate natural causes from superstitious beliefs. Large Causality with large Conscientiousness lead to the investigation of *moral truths*, and those with good literary faculties and language combined will be able to write and speak on moral philosophy. Causality, Comparison, and Imitation large give ability for mental philosophy. Professor Alexander Bain's physiognomy is an excellent illustration of this combination. His writings upon moral and mental philosophy are most admirable, and show the possession of conscience, reason, and intuition in a very marked degree.

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* Mental Physiology, William B. Carpenter, M.D., p. 385.

The development of Causality and Comparison in all of the higher animals is so marked that any one who has been long associated with them cannot fail to have observed its action. That these faculties are also present in a modified degree, very low down in the scale of organized life, none can doubt who has made a practical study of insects, birds, and reptiles. Now, many persons who have not examined the matter closely deny to the lower tribes the possession of any degree whatsoever of the reasoning power, referring all their efforts to "instinct," as if that were an explanation. Instinct or spontaneity in man is looked upon as genius, for the musical effort of a prodigy like Mozart, who played and composed at five years of age, were as spontaneous and automatic as any act of the lower animals could possibly be. It is related of the water-moths that they cover themselves with pieces of wood or gravel in order to maintain their equilibrium in the water. When they are too light they add to themselves a minute speck of gravel, and, when too heavy, a bit of pith or wood. In man such action would be deemed the height of inventive judgment, and it certainly exhibits in the lowly *lepidoptera* the presence of the faculty of Weight, of inventive power, and of capacity to reason from cause to effect. The mass of evidence in proof of the possession and operation of Causality and Comparison in many classes of insects and animals of various grades is so overwhelming that it seems superfluous to introduce any examples here. One could fill volumes with the most incontrovertible evidence on this point.

The cultivation of Causality strengthens the mind, and gives boldness and originality to one's thoughts. Those who are deficient in original inquiry are like the sheep who blindly follow the one that has the most power to lead. Many are satisfied to have others do their thinking for them, and lean altogether upon the views and opinions of their doctor, minister, or friends; but those who would know for a certainty the cause and origin of phenomena must investigate for themselves, yet this need not prevent their giving due respect and credence to those whose opinions have been tested by practical experiment. A study of the natural sciences and of the laws of mechanics tends to strengthen the cause-seeking faculty, while speculative theories and superstitious beliefs founded on faith stifle the promptings of reason. The inductive method of reasoning—that which traces the effect from causes or facts—is the most practical, yet the deductive method—that which traces causes from the effects observed—is also useful. The first-mentioned method is like performing a sum in arithmetic; the latter method is like *proving* the arithmetical process. Both are of use. Listening to debates and to good logicians is an excellent way of strengthening the causative power. The endeavor to arrive at *the absolute truth* by irresistible proofs is calculated to lead to the most cogent conclusiveness.

COMPARISON.

Definition.—Ability to originate, comprehend, arrange, criticize, and compare ideas, plans, and systems; capacity to reason logically and to use analogy; power to comprehend complex systems by investigating their laws. Comparison assists philosophy, planning, and invention. It gives breadth of mind, good sense, and correct judgment. It creates a desire to learn laws, investigate principles, penetrate causes, and expound theories. This trait is large in lawyers, statesmen, generals, leaders, inventors, naturalists, scientists, orators, and chess-players.

An *excess* leads to sophistry and tiresome and useless theorising,—to the planning of impractical schemes and wild and visionary speculations.

A *deficiency* is exhibited by those who are unable to create, plan, or arrange ideas, or work systematically, and who fail to connect cause with effect. This defect is shown in those who have a narrow understanding, and who are incapable of comprehending profound, broad, or long-sighted plans in business, government, or in mechanism. They are also unable to suggest new methods or to make experiments. They are incapable of making a logical statement or to comprehend one. They give *opinions* instead of logical *reasons*, and fail to perceive the difference between the "reason why" and a personal opinion on any given subject. A lack of reason is the foundation of bigotry and superstition, for those who are wanting in logic and common sense allow the emotions to rule them, and hence substitute feeling and personal opinion for reflection and reason.

Facial and Bodily Signs.—The most conspicuous and reliable facial sign of Comparison is height and breadth of the bridge of the nose, conjoined to length of this organ,—provided the quality be fine. The *nasal* sign for Comparison lies above the nasal sign for Veneration and joins Causality above. Fullness of the centre of the upper part of the forehead is also a sign, *if the quality be fine* and the brain system is dominant, or one of the principal systems. Where the osseous and brain forms are about equally exhibited and are of good or fine quality, and the bones are square, excellent reasoning powers will be manifested upon mechanical and scientific subjects. Where the brain form, conjoined with the vegetative or rounding form, is dominant and of fine quality, capacity for profound and prolonged reasoning upon metaphysical subjects will be exhibited. David Hume is a good illustration of this combination. Where the forehead is high, full, and broad, associated with fine muscular development, ability to reason upon art and metaphysical subjects will be manifested. This combination produces the rounding forehead, and the curved form is according to universal law the form devoted to art. Thus each combination reveals by its form and quality its *inherent* tendency and *direction*. Each of these combinations has its meaning registered in the form of the nose, as well as in the form of the brain and body, and mutually confirm each other.

Comparison is of the highest power in those characters who, with fine inherited quality, have also *a very long as well as high and broad nose*. Short, bony noses, no matter how high and broad, reveal less of this faculty than those which have *length*. Comparison of the nose of Lagrange, the eminent astronomer, with that of Gibbon, the historian, and the noses of Lagrange and Elizabeth Cady Stanton, grand reasoners, with those of Rubens and Miss Hosmer, celebrated artists, will illustrate the differences between those noses which reveal ability for the most *comprehensive* comparisons, and those which reason upon subjects requiring relatively less breadth and comprehensiveness. Flat-nosed persons and races are entirely destitute both of Comparison and Causality. Their short, flat noses, depressed chests, and relative lack of breadth are most conclusive signs of the absence of the capacity to comprehend logical premises and deductions.

A broad, well-developed *body*, together with a high, broad, and long nose (if of fine quality) is the most favorable formation for the manifestation of a high degree of sound reason, with ability for prolonged and profound labors in this department of mentality.

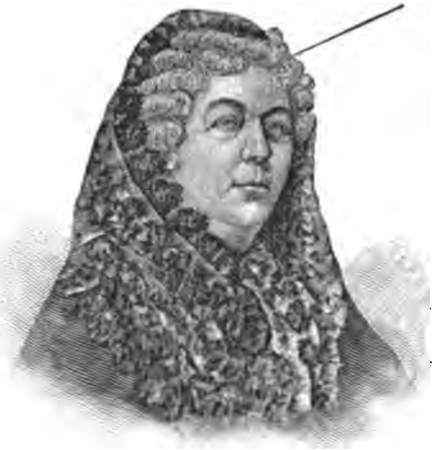

Fig. 120.—ELIZABETH CADY STANTON. (Lecturer, Author, Reformer, Editor, and Orator.)

Born in Jamestown, N. Y., 1816. Conspicuous facial sign, Comparison, shown by width and height of the bridge of the nose, robust body, and fullness of the centre of the forehead. The law of the straight line, curve, and sphere governs this face. The physiognomist in delineating so regal a character as this finds language almost inadequate to express its powers and excellencies. To a highly developed, social, domestic, and moral nature this lady adds all of the higher faculties of the intellect. In this character, Firmness and Conscience, without being severe, are unswerving; Love of Home, of Country, and of Young are all of the highest order. As a wife, mother, and patriot, this lady is unexcelled. The signs for Benevolence, Alimentiveness, Mirth, Approbation, Friendship, Hospitality, Sanativeness, Color, Self-esteem, and Modesty are well defined. Resistance is large, as shown by her life-long efforts in opposing slavery, and in her unflinching endeavors to promote woman's enfranchisement. In the nose the signs for Ideality, Sublimity, Mental Imitation, Analysis, Human Nature, Construction, Acquisition, Veneration, Executiveness, and Self-will are prominent; so, also, are Form and Size. Locality, Mental Order, Calculation, Prescience, and Credenciveness are less than average. Language, as shown by the mouth and eyes, is copious, fluent, clear, witty, cogent, logical, and magnetic. As an orator, she is one of the most impressive and ornate, and is eminently well adapted to statesmanship, and would have made a good Secretary of State. With the highest powers of Reason she combines those of Intuition, while her sympathies for the oppressed of both sexes and of all races have led her to leave a home and life of luxury to travel and labor for their amelioration. The women of America will forever be her debtors for legal and property rights which she has been instrumental in gaining for them.

Another facial sign for Comparison, not so reliable as the former, is found in fullness of the centre of the upper portion of the forehead. The sign in the nose, as above given, is always to be depended upon, together with the *sort of reason* which will be manifested, for the *shape of the nose* discloses the mental tendencies of the character, and those tendencies will be toward the analysis of art, or of literature, or of architecture, or of science. The form of the nose will in each case decide the dominant tendency or direction. A well-developed nose is the distinguishing feature of the most highly developed races and individuals. It is a current belief that all large, high, broad, and full foreheads are evidence of fine reason and sound intellect. Nothing can be further from the truth. Such a forehead, if accompanied with large lungs and good digestive faculties, together with *fine inherited quality*, would be proof of an excellent reasoner and of good intellect in some directions; but a projecting, high forehead, without these physiological gifts, and with a coarse, thick skin, would be indicative of stupidity or of very commonplace mental powers. Let the reader once comprehend the immense power which large lungs give to mental processes and how much is due to a sound visceral structure, and he will desire to examine the nose, nostrils, and entire face before passing judgment upon a character based upon an inspection of the size of the head or forehead merely. The rule is to observe, first, the *quality* of the subject under inspection, and then get the *direction* or ruling talent of the character (disclosed by the *shape* of the nose); then the *force* or *power* of the individual to carry out his dominant taste, shown by the *size* and *width* of the *nose*, and in this combination and classification will be found the key to the entire mental character. The domestic and other traits can be read by reference to those parts of the face where their signs are situated.

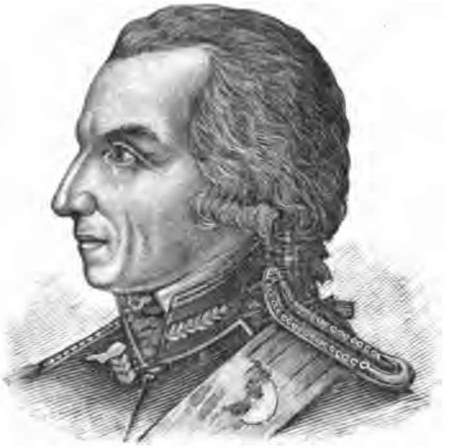

FIG. 121.—BENJAMIN THOMPSON (COUNT RUMFORD). (PHYSICIST, REFORMER, PHILANTHROPIST.)

Born in Massachusetts, 1753. Conspicuous facial sign, Comparison, shown by width and height of the bridge of the nose and form of the upper and central portion of the forehead. The law of the straight line and square governs this face. The projection of the eyebrows and the receding outline of the forehead disclose a character in which practical Reason is dominant. Whatever abstract plans this man made he was capable of putting into practical use. The size, form, length, and bony nature of this nose announce a man of might; the forehead is equally decisive of energy, of wise plans, and of prompt execution. The signs for Firmness, Conscience, Benevolence, Patriotism, Economy, Sanativeness, Color, Pneumativeness, Force, Caution, Approbation, Friendship, Amativeness, and Self-esteem are well defined and form a strong basis for the intellectual powers. The point of the nose stands high above the plane of the face, thus showing a far-reaching, aspiring, ambitious character; also showing a large degree of Human Nature. Sublimity, Ideality, Mental Imitation, Construction, Acquisition, Veneration, Executiveness, and Self-will are all strong traits. Prescience and Credenciveness are not large. The practical faculties of Observation, Form, Size, Locality, Order, Time, Calculation, and Language are very pronounced; while Memory of Events, Intuition, and practical Reason are dominant, and altogether show a character worthy of imitation.

Taking the forehead and nose together as guides to the discernment of signs of Reason is an infallible method, but where the forehead is high, broad, and full, and the nose small, the intellect will be of a common order, *unless the signs of high quality are present* and associated with a pyriform-shaped face.

There are many sophistical reasoners who can run parallels so near the truth as to sometimes deceive even the most logical. Such persons are known by round or full, smooth, shining faces, rounding bodies, and the *fingers tapering to a point*, with the reasoning faculties, of course, in combination, but with small Conscientiousness.

DESCRIPTION OF COMPARISON.—The completeness and perfection of the reasoning process in man requires the action of two distinct traits, viz., those of Comparison and Causality. The soundness of the judgment in relation to cause and effect depends greatly upon the soundness and perfection of the visceral organization. It is true that an individual with a large brain of fine quality, developed in the reasoning faculties, will be capable, even in ill health, of logical reasoning; yet the same person in a state of robust health would be capable of far *greater* power and more vigorous and prolonged thought. The fact that some persons in a state of permanent ill health or great delicacy of constitution have evinced fine reasoning powers does not militate against the above statement. Alexander H. Stephens, for many years Senator from Georgia, was a life-long invalid, and of feeble physique at birth, yet was remarkable for his great mental industry and large and sound reason. *How much greater* this mind would have been in a normal condition we can well understand. This instance is often brought forward to prove that good health and a vigorous visceral structure are not essential to profound reason. That Senator Stephens was able to acquit himself of such arduous mental labor, involving so much logical acumen, was due to the fact that he had inherited a most uncommon *quality* of brain and body, as well as large size of brain; by great care of his physical

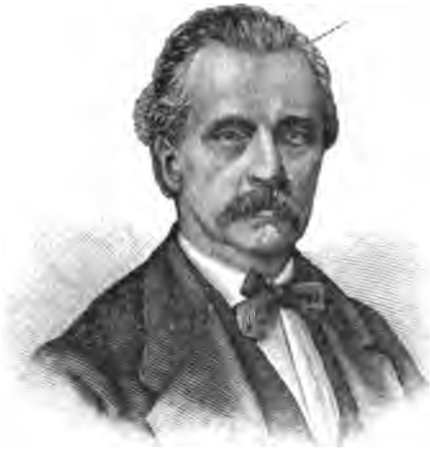

FIG. 122.—HERMANN LOUIS HELMHOLTZ. (PHYSIOLOGIST DISCOVERER, MATHEMATICIAN, AUTHOR, AND PHYSICIST.)

Born in Germany, 1821. Conspicuous facial sign, Comparison. The law of the straight line, square, and curve governs this face. The chin reveals Firmness and Conscience, also Patriotism, Love of Home, and Benevolence. Alimentiveness, Sanativeness, Economy, Bibativeness, Hospitality, Approbation, and other domestic traits are well defined. In the nose the signs of intellect are manifest. Analysis, Human Nature, Sublimity, Mental Imitation, Construction, Acquisition, Veneration, Executiveness, and Self-will show their power. Form, Size, Observation, Locality, Weight, Calculation, Mental Order, Time, and Memory of Events are conspicuous; while Causality, Comparison, and Intuition are supreme. This combination of faculties, with a high degree of quality, announce a most useful, comprehensive, and scientific mind. His most celebrated works, in which are elaborated his grand discoveries, are as follow: "The Conservator of Force" (1874), "A Manual of Physiological Optics" (1856), and "The Sensation of Tone as a Basis for the Physiological Theory of Music" (1862). In this last work Professor Helmholtz has succeeded in

"Untwisting all the chains that tie
The hidden soul of harmony."

powers he was able to make this development very effective. With robust health, he would doubtless have been a mental Colossus. His physiognomy shows that he was descended from a vigorous and long-lived ancestry. I do not know the circumstances of his birth, but I opine that some *accidental* circumstance in his prenatal life gave permanent feebleness to his physical powers.

The greatest and most profound reasoners are those who have inherited a fine and nearly equal proportion of each of the five superior systems, all of *superior power and vigor*. All this their faces disclose. They also disclose which part of the reasoning process is dominant in cases of disparity between them.

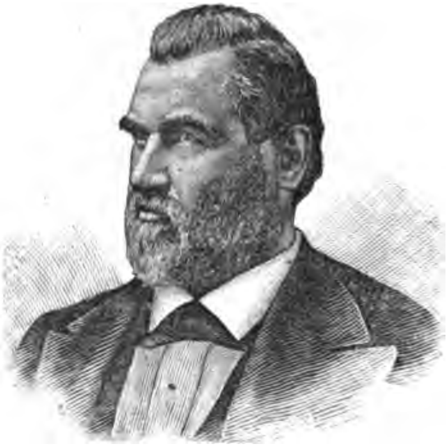

FIG. 123.—LELAND STANFORD. (MECHANIC, GOVERNOR, SENATOR, PHILANTHROPIST.)

Born in Watervleit, 1824. Conspicuous facial sign, Practical Reason, shown by the projecting superciliary ridges, where are grouped the signs for mechanical ability; shown also by the receding forehead. The law of the straight line and square governs this face. The key-note to this character is practicality. The domestic traits are well represented. The sense of Justice is strong, Firmness most decided; the full lower lip shows large Benevolence, and with such glandular development the faculties of Love of Home, of Country, and of Young must be also large. The signs for Self-esteem, Hospitality, Friendship, Amativeness, Alimentiveness, Pneumativeness, and Resistance are well defined. The nose is solid and broad, of proportionate length. In it the signs for Mental Imitation, Human Nature, Ideality, Sublimity, Constructiveness, Acquisitiveness, Veneration, Executiveness, and Self-will are conspicuous. The mechanical faculties are dominant. The signs for Form, Size, Locality, Weight, Observation, Order, Time, Calculation, and Memory of Events are very pronounced. Language is most apparent. Prescience is large, Credenciveness is small, and Causality and Comparison excellent. This mind ranks *utility* above everything, yet has sufficient Ideality and Constructiveness.

Comparison is that part of the intellect which leads one to see the various differences and distinctions in all mental schemes and conceptions; hence this faculty tends to criticism, analysis, explanation, analogy, and induction. It is especially the gift of those who study and investigate the grand and complex laws of Nature in astronomy and physics, yet it is of use in every vocation.

Another department of Comparison gives ability to criticise, arrange, and classify *material* substances in art, science, and literature. Humboldt, who, in his wonderful work, "The Kosmos," showed his understanding of the vast chain of natural phenomena, had perhaps the most *comprehensive* mind of any man in any age. His Comparison and Causality were of immense power, and the signs for these traits are observed both in his nose and forehead. Linnæus, the eminent botanist, who gave to the world his great system of classification of plants and a precise nomenclature for the same, is another illustration of that comprehensiveness which results from a large development of Comparison and Causality. In works of this kind the mind must be able to spontaneously grasp the points of resemblance and dissimilarity, and thus by comparison assign to each object under observation its own true place and rank in Nature. Baron Cuvier, another of the world's mental Colossi, was able to build up an entire animal body from the inspection of a small bony fragment of the animal.

Comparison takes cognizance of the mechanical principles involved in arts and architecture, in scientific and surgical instruments, and in the appliances and implements used in the physical sciences, such as the telescope, microscope, the telegraph, telephone, electrical machines, etc. One sort of reasoning deals with the truths and methods of abstract reason on moral questions; another, with the concrete, or the principles involved in the operation of the sciences and arts.

The more Conscientiousness there is combined with reason, the more just and truthful will be the deductions. A man with large reasoning powers and small Conscientiousness will be sophistical and enjoy reasoning from false premises quite as well as from a true foundation; indeed, he will not be well able to distinguish between the two. Thus, it is proven that Reason (one of the *highest* attributes of the human mind and one of the *latest* acquisitions of the human race) must have as a foundation the assistance of Conscientiousness, one of the *earliest* functions evolved in the human organism. Comparison is the natural ally and companion of Causality. Possessing high powers, it holds its position in accordance with its importance. In the nose, its associated signs show by their character what direction Comparison will take when influenced by their association. Veneration, the first of the high faculties whose signs are found upon the ridge of the nose, is one of the traits found only among developed people. If observed upon the physiognomy of a semi-civilized person it denotes a high grade of development in that individual, for among such races are found fine physiques as well as good physiognomies, thus showing their tendency to *upward evolution*. Veneration, the faculty which creates respect for all admirable things, gives to Causality a respectful and submissive nature, assisting it to bow to causes and laws discovered by this inquiring mind. Above the reasoning faculties, upon the ridge, we find the nasal signs for Executiveness and Self-will. These two mighty mental forces give all the assistance which investigation and discovery require for promulgating and defending those theories, facts, laws, and principles which Comparison and Causality have wrested from Nature's alembic. The philosopher, inventor, and discoverer must possess the elements of force and command to a certain degree in order that his theories and discoveries shall be thrust upon the world, for although the faggot and dungeon no longer threaten the bold speculator or daring inventor, yet self-will and self-assertion must be used by those whose efforts bring into existence knowledge which is revolutionary in its operation. I have sometimes been lost in admiration when reading of the efforts made by discoverers and inventors to *compel* the world to receive from their hands the principles in science, art, and mechanism to which under great sacrifices and amid mighty struggles they have given birth. Indeed, *force of mind*, originality, and invention are almost always accompanied by *strength* of body. The inventors, discoverers, philosophers, and originators of new theories, as a rule, have been men of strong physique, physical courage, and longevity. The portraits of Socrates, Aristotle, Bacon, Kepler, Voltaire, D'Alembert, Descartes, Condercet, Compte, David Hume, Charles Darwin, Benjamin Franklin, Martin Luther, Howe, John Locke, and the whole army of bold and original minds whose theories and works have blessed the world, disclose the fact that they were possessed of good muscular and visceral organizations. The signs in the nose for the breathing and circulatory functions, and for the stomach, are interwoven and closely related to mental signs and predicate mental powers, and hence it is that bold, ingenious, and original minds disclose strong, massive, and so-called "homely" features, viz., a large mouth, large high nose, full eyes, and broad cheeks and chin.

The only accurate method of arriving at a knowledge of the sort or direction the reasoning power will take in a given physiognomy, is to apply the "basic principles of form." The square-shaped forehead and high, long, bony, square-cut nose disclose the capacity for science, morals, and a certain branch of mechanical laws. The *rounding* forehead and broad, high, and long, muscular nose, rounding at the point and full at Constructiveness, assure us that the mind will exert itself upon metaphysics, astronomy, abstract philosophy, and invention, while the same muscular nose, if relatively *short*, will disclose the sort of reason which is involved in art, music, the drama, and dramatic literature, as in fiction, plays, etc. There are, of course, variations and combinations of all these different lengths, heights, width, etc., of the nose, suited to the talents which each character expresses, yet all can be understood by the keen analyzer and observer.

In discussing the faculty of Comparison, Professor Fowler observes as follows:—

> Two organs of Comparison doubtless exist. The lower one, more appropriately connected with the physical perceptions, in comparing physical substances with each other and reasoning thereon; while the latter, combining more naturally with the moral faculties, reason from the physical to the moral world, compares ideas, criticises and discriminates between them, and imparts logical acumen.*

Although Professor Fowler (who is a good observer) tells us that two "organs" of Comparison doubtless exist, he fails to locate them in the forehead. It is impossible to comprehend the kind of reason which a given individual will exhibit by an inspection of the small portion of the forehead, where he says Comparison is situated. Let any good observer examine "the middle of the upper part of the forehead," and endeavor by that alone to understand and describe the sort of reason which will be exhibited, and I predict it will be an utter failure; yet examination of the outline and size of the nose will reveal it. The signs in the nose, taken in connection with the *quality*, are unfailing indications. When these and the sign in the forehead, taken in connection with its form, are observed, a *complete* summing up of the characters in regard to the *kind* of reason present can be had, but where the nose has been injured the forehead can be observed, or when the forehead is covered recourse can be had to an inspection of the nose.

Two distinct parts of the reasoning faculty must be used in order to complete the process. The *cause* of anything under observation must first be sought, and then it must be classified or relegated to its own division, according to the law of similar things. This is done by *comparing* it with others possessing the same appearance, form, quality, or characteristics. In this process *discrimination* performs a leading part. Thus it is that discrimination or reason is *common sense practically applied.* Where either of these two halves of the reasoning power are greatly lacking the judgment or estimate of a theory, idea, or thing will be partial or imperfect. The practical things of every-day life require the exercise of the reasoning powers quite as much as the investigation of the great and complex laws which regulate the solar system or which lie at the base of mechanical forces.

Inductive reasoning assists the discovery and application of natural laws. This sort of reason is used by modern scientists, and herein lies the extreme practicability and accuracy of their methods. The ancient Greek and mediæval method was the *deductive* form, which reasons from generals to particulars from a premise *assumed* to a conclusion in accordance with this assumption, regardless of whether the premise was based upon truth and observation of facts. The inductive method seeks to find a conclusion based upon the observation of a fact or a tangible object; hence, if its conclusions are in accord with its observation the whole is correct.

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* Human Science, O. S Fowler, p. 1128.

Reason is particularly adapted to the discernment and elucidation of natural laws. It was designed that man should be *master* of these laws, else the law-seeking faculty would not have been given him, and, although daring inquirers into the truths of Nature have lived in all ages of the world, yet the force of superstitious unreason was sufficiently powerful to stifle and postpone for centuries the widespread dissemination of laws and principles which Galileo, Bruno, and Bacon dared to avow, and for which they suffered.

The sort of Comparison which is used in the ordinary routine of daily life and in business is the same which the poet and orator use when engaged in giving vent to their thoughts by pen and voice. What makes it seem different is because it is *combined* with faculties *different* from those used in ordinary affairs. Ideality or imagination influences them. Mirthfulness and Wit, Constructiveness, Form, Size, and Language enable them to paint their illustrations of resemblances and differences in the forms of apt, mirthful, or witty simile, allegory, metaphor, or parable. Figures of speech result from an excess of Comparison, and all the great rhetoricians are indebted to this trait for their appropriate and convincing analogies, which often convince where argument fails. The philologist's labors are perfected through his ability to compare words, sentences, phrases, and languages. Comparison enables him to see incongruities and resemblances, and to generalize and classify the different parts of speech in diverse languages and dialects. The signs of this trait are large in the face of Noah Webster, compiler of the great "Unabridged Dictionary;" also in that of Mezzofanti, the linguist, who could express himself in fifty-six languages and was acquainted with sixty-four others. Comparison shines pre-eminent in the face of Bunyan, whose allegory of "The Pilgrim's Progress" has been translated into every civilized language. The portrait of Thomas Moore, the Irish poet, also exhibits it very largely. It was remarked that in his life of Sheridan "he made use of two thousand five hundred similes, besides metaphors and allegorical expressions."

It is this trait which gives the orator such convincing powers in setting figures of speech in "supposing a case," and when combined with the mechanical faculties the illustrations will be drawn from these sources, and in combination with Observation, Locality, Form, and Memory of Events, historical powers will be manifested, as in Gibbon. With large Language added, it enables one to write on this subject. Eminent chess-players disclose large Comparison combined with Constructiveness, Form, Size, Locality, and Observation, as observed in the physiognomy of Herr Zukertort.

Comparison is so universal a faculty that it has existed in all historic ages, in nearly all races, and in combination with all phases of mentality. The German and Scotch equally possess the most universal endowment of this trait; the English come second, the Americans third, and the French possess the least; yet men and women noted for Comparison have developed in every civilized race. A high degree of Comparison has been also manifested among some savage races, notably among the North American Indians, whose orators and poets have exhibited its action in their speeches and poetry. Their foreheads, it will be observed, are usually receding, and this form of the forehead is often found associated with the most *practical* characters. The forehead of John Locke (renowned for his philosophical writings) presents this formation; so, also, does that of Arkwright, the eminent inventor. Many of our most eloquent orators exhibit receding foreheads. This shape of the forehead, when combined with a good endowment of Causality and Comparison, reveals reason of the most acute, accurate, and penetrating phase; for the receding forehead is one of the signs of an active liver and large lungs, and activity of these organs gives *clearness*, distinctness, and analytical power to the mind. Not only does this form disclose penetration, but it is indicative of the presence of the mechanical and observing faculties; hence, a high order of practical tendencies will be manifested where the forehead recedes to a certain degree, as shown in the face of Stanford.

As Comparison is a high trait, and one which brings its possessor into relation with the vast and comprehensive systems of Nature, it follows that its cultivation is of high importance. It cannot have full freedom of expansion so long as superstition and bigoted dogma are supreme. No, reader! *Freedom* of mind is opposed to the narrow restraints imposed by hide-bound creeds and venerable myths. No man can really enjoy the luxury of true and complete mental emancipation as long as he allows bigotry and superstition to control and fetter his mind. There is a happiness and ecstasy, an experience of mental exaltation, resulting from complete freedom from false theories and enslaving customs. Not until the last vestige of error and superstition has been reasoned out of one's mind can one realize this supernal condition. The only way we can understand God is through His works. How important, then, to cultivate that faculty which enables us to realize the immensity and grandeur of the laws which explain and reveal them. The study of moral laws and the whole arcana of the sciences are of use in the development of Comparison and its twin sister, Causality. To be endowed by Nature with a large degree of Reason is to have inherited a liberal education, for Reason, supported by Conscientiousness, will establish in the character the supremacy of wisdom and justice.

INTUITION.

Definition.—Webster defines Intuition to be "a distinct inspection of the mind; direct apprehension or cognition; an act of immediate knowledge, as in perception or consciousness, distinguished from mediate knowledge, as in reasoning. Intuition is spontaneity of cognition and action, based on spontaneous cognition."

An *excess*, an immoderate endowment of Intuition, is seldom developed. Where this is the case, it is probably the compensation for the absence of Reason, Observation, or Practicality. If it prove an annoyance the cultivation of these faculties will tend to balance the character.

A *deficiency* can be remedied by bathing, cleanliness, and purity, thinking more and feasting and sleeping less. By this course the nervous system will become more sensitive, aspiring, and spontaneous. The brain and nerves will develop new powers. Avoid gross eating and drinking, and all low, brutal, coarse sports and pursuits; associate with the pure and gifted,—with the refined and noble; observe their methods and ways of life, and imitate them. Read the works of the purest poets, artists, and scientists. Cultivate the highest and best in your mind. So shall the entire nature become higher, more refined, and sensitive.

Facial and Bodily Signs.—Inasmuch as inherited quality is the most marked sign of Intuition, observation of the *quality* of the *skin*, hair, and eyes will show that those who possess very fine hair, very bright eyes, and very fine, clear skin are more intuitive than those who are the opposite of this; but as the brain is a part of the nervous mechanism, we must look to its *form* and *size*, also, for signs of quality. As the eyes show by their form, size, and condition their capacity for receiving sensations, they also must be subjected to examination before rendering judgment as to the relative degree of Intuition. The capacity for receiving sensations is in accord with the development of the sense-organs, viz., the senses of touch, taste, sight, hearing, and scent. Now, if all these senses are of the highest order of acuteness and efficiency, it follows logically that one thus endowed will have ability for instantaneous and spontaneous cognition of things observed. It also follows that if all of these organs are highly organized, the brain will partake of the same quality of fineness and capacity for receiving the impressions made upon the sense-organs through their several organs of sight, hearing, etc. This analysis shows us, then, that large, wide-open eyes of fine quality (shown by their brightness) are signs of the presence of Intuition, by reason of the greater expansion of the optic nerve, which is more expanded in a large eye than in a small one. The fineness of the skin and hair are also signs of this faculty; so also is the large size of the forehead, if *associated with fine quality.* A pyriform-shaped face, associated with large, wide-open eyes, is another very reliable indication of spontaneity of sensation and impression.

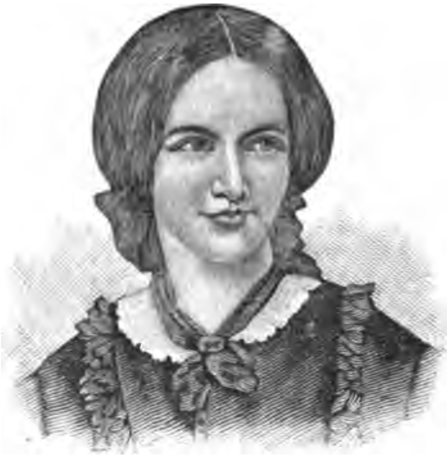

FIG. 124.—CHARLOTTE BRONTE. (AUTHORESS.)

Born in England, 1816. Conspicuous facial sign, Intuition, shown by the dominance of the brain and nervous system, large, bright eyes, and fine quality. The oval chin and curving eyebrows announce artistic capacity. The domestic and moral traits in this face are well developed. Conscience, Firmness, Friendship, Mirth, Modesty, Benevolence, Love of Home, and of Young are noticeable. The mouth and eyes by their size denote large Language. In the nose the signs for literary talent are evident. Ideality, Sublimity, Analysis, Mental Imitation, Human Nature, Construction, Acquisition, Veneration, and Self-will are conspicuous. Form and Size are large; Locality, Observation, Calculation, Mental Order, and Time are well defined, while Intuition is pre-eminent. The talent of this character was of the most original and spontaneous nature. With a most limited knowledge of the world and people, Miss Bronté wrote some very remarkable novels; her powers were almost instinctive.

Bodily signs are those which show the supremacy of the brain and nerve system over the bony and muscular structures; especially if associated with small limbs, small and spare hands and feet. A general sign is known by fineness and clearness of the skin; hence every part of the outer skin-covering will reveal the grade of Intuition in any given individual. If the bony, muscular, or thoracic systems are dominant, the skin and hair fine, and the eyes bright, Intuition will be active in the direction to which each of these systems tends.

DESCRIPTION OF INTUITION.—Having thus given the physiological and anatomical signs of that faculty which is perhaps understood the least of all the mental powers, I shall proceed to analyze its sources, and shall show that this trait, which is considered by many to be of a nature transcending all others in its powers of apprehension and cognition, as well as being more "spiritualized" in its operation, is just as much a part of the "fleshly tabernacle" which we inhabit as are all the other mental faculties. It is true that it is a trait dependent entirely upon *inherited* or *transmitted quality;* hence it is a condition of the body as a whole and not the special endowment of a *single organ* or system; for, although its primary signs are shown by the indications of the brain and nervous mechanisms, yet, where the signs for *high quality* of the brain and nerves are observed, *an enhanced quality of the entire organism* is always present. The same phenomenon is manifested throughout the animal kingdom. Animals that disclose dull eyes, coarse skins and hair, exhibit relatively less intelligence, quickness of apprehension, and capacity for receiving spontaneous sensation than do those whose appearance is the reverse. Compare, for example, the various deer tribes with the cinnamon bear or hippopotamus, and the differences will be apparent at a glance.

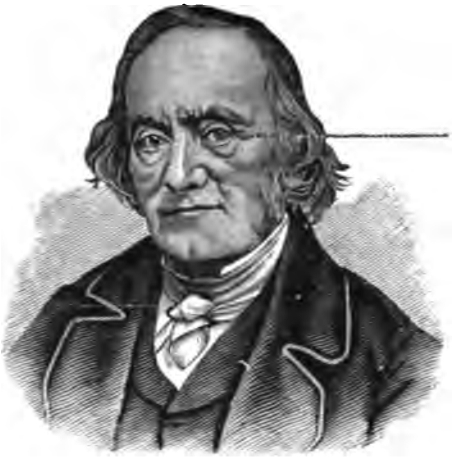

FIG. 125.—RICHARD OWEN. (NATURALIST, SURGEON, AND WRITER.)

Born in England, 1804. Conspicuous facial sign, Intuition, shown by supremacy of the brain and nervous system, and large, bright eyes. The law of the straight line, curve, and sphere governs this face. An amiable, moral, modest, persevering expression is here disclosed. The Quality is fine and Color well developed. The signs for Firmness, Conscience, and Benevolence are noticeable, while the wide mouth, full lips, and large, bright eyes evince fine linguistic capacity. Love of Home, of Country, and of Young are marked. Self-esteem is only average. The sense of Mirth and Wit is very decided. Friendship, Hospitality, Alimentiveness, and Sanativeness are large. The signs in the nose of Pneumativeness, Sublimity, Mental Imitation, Analysis, Construction, Veneration, Executiveness, and Self-will are highly developed. Form, Size, Locality, Weight, Observation, Credenciveness, Calculation, and Memory of Events are all of the first grade, while Reason and Intuition are pre-eminent. This character can take rank with the "mastodons" of learning and of usefulness.

Because of the difficulty in comprehending the action of Intuition, superficial observers have ascribed to it a *supernatural* origin, believing it to be allied in some mysterious manner with an incorporeal "soul" or "spirit." Now, the brain and nervous mechanisms are just as corporeal as are the heart, liver, and lungs, for they all depend upon blood and tissue for their power to act, and if an *exalted condition* or *quality* of the former produces the phenomena observed in the action of intuitive cognition, then the trait is no more "spiritual" than are the operations of Hope, Constructiveness, or Reason, although to the casual observer it may seem more abstruse, occult, and mysterious.

All of the higher operations of the mind are more complex than the processes involved in what are termed "instinctive movements," viz., those of the muscular movements of the limbs, the act of eating, etc.; hence they appear to be mysterious to those who are incapable of critical and scientific analysis. Inasmuch as they are complex, they are more difficult of comprehension, yet by following the laws laid down in my system of practical and scientific physiognomy, and by comparison with other departments of Nature, we can easily comprehend the nature of such abstruse faculties as Intuition, Prescience, and Reason.

Phrenologians use the terms "Intuition" and "Human Nature" interchangeably, conveying the idea that Intuition is used only for the purpose of comprehending the *human mind and body*. Now, the perception of Human Nature is a separate faculty from Intuition, having distinct signs in the face; yet it is greatly aided by the influence of Intuition, which also assists us in our researches into *every* department of Nature. The scientist relies upon both Imagination and Intuition in making his investigations and discoveries; indeed, both these faculties are indispensable to the inventor and discoverer, as well as to the artist and poet.

That Intuition has a physical base is indisputable, and I think I have established that fact by the analysis of its action and description of its signs in the face and body. It is now in order to investigate its action and the resulting phenomena, as exhibited by those most gifted in this faculty. I will premise by saying that there are as many degrees of manifestation of this as of every other trait, some showing the presence of it in a most talented form, as exhibited in musical, artistic, and scientific geniuses; others apparently not possessing even a germ, as shown by the lowest races, such as the Digger Indian, and other undeveloped races. Among civilized people, even, there are others who are so dull, insensitive, coarse, or brutal as to be destitute of any apparent power of intuitive knowledge. Yet, as evolution has brought them into the grade where *progress* is *possible*, so such persons can, by intermarriage with those endowed with a greater degree of intuition, become progenitors of offspring who will manifest the presence of this trait. In this way such characters can be "born again," a system of "re-incarnation" which we all recognize.

What causes produce Intuition? How does Intuition make its appearance? What is its office in the human mind, and how is it manifested? Intuition is the crowning achievement of refined organization, or of the highest manifestation of mental power, for it *divines* or spontaneously arrives at an understanding of what it perceives or thinks upon with a lightning-like rapidity; that is to say, instantaneously or upon sight.

There are several ways of accounting for the causes which produce Intuition. That it is inherited there is no doubt; but when it is manifested in an extraordinary degree by a precocious child whose parents were not noted for anything approaching that degree, then it appears to the unscientific thinker to approach the miraculous, and to have a spiritual foundation. All things appear supernatural to those who do not comprehend their rational bases. A precocious child, in whose early life appears a wonderful capacity for music, number, art, or literature, may have received during its prenatal life a *quickening* impulse in this direction, through some modification of the brain and nerve structure or substance, by impressions made upon the mother's mind; or he may by the law of *atavism*, or "taking back," have received his germ-form from some remote ancestor whose talents were of a high order in the same direction, and this inheritance may have become more highly organized; or, as in singers, the musical or vocal mechanism involved may have been (as in the case of Patti) an inheritance from a long line of ancestors whose vocal apparatus by continual use became very highly developed, and in this *augmented* and *intensified* condition was transmitted to her, and through years of cultivation on her part of this already flexible and highly-developed organ culminated in a gift which seems supernal and almost superhuman. Now, musical intuition is one of the simplest forms of genius. Singing is a gift appertaining to a certain development of the vocal apparatus, yet musical composition would seem to involve something more of a mental nature; but when we find Mozart composing excellent music at four years of age, we see that something more complex is at work, and we must look to an *intensified degree of several faculties* for the explanation of the results which he wrought out at that tender age. No matter how wonderfully great the efforts of youthful geniuses may appear, not one of the many prodigies have evolved a gift which was not already in a certain degree the gift of others, thus proving that even the intuition of genius cannot *originate* any distinct or new faculty which is not already, in some measure, the property of other human beings. On this point, Dr. Carpenter tells us that

> The men who have divined and enunciated great truths stand out above their fellows as possessed of a genius which could not only combine but create,—of an insight which could clearly discern what reason could but dimly shadow forth. Granting this freely, it may yet be shown that the intuitions of individual genius are but *specially exalted forms* of endowments which are the general property of the race at the time, and which have come to be so in virtue of its *whole previous culture.* This appears readily capable of proof in the case of two forms of mental activity, the

tendency to which occasionally manifests itself so remarkably in individuals as a *congenital aptitude* that it must be considered as *embodied in their constitutions;* and which are yet so completely the products of culture that we are able to trace pretty clearly the history of their development. These are the ideas which relate to *Number* and those which relate to *Music.*[*]

The popular idea of instinct is that it is something *inferior* to reason. Now, instinct and intuition are, in a sense, identical, for both act *spontaneously* or automatically, without previous reasoning upon what is perceived or concluded in regard to the object or idea under consideration, for Dr. Carpenter, quoting Sir John Sebright, observes that

> He went so far as to express it as his decided conviction that by far the greater part of the propensities which are generally supposed to be instinctive are not implanted in animals by Nature, but are the results of long experience acquired and accumulated through many generations, so as, in the course of time, to assume the character of instinct.[†]

Now, this is precisely what intuition and genius are, and it is in this manner that they are manifested; that is to say, as instincts, spontaneously, automatically, or, in other words, mechanically, and because they cannot help it. Let us read Mozart's account of himself, and we shall see that his musical intuitions or insight outworked in precisely the same manner as the so-called instinctive actions of the spider in weaving and balancing his web (and I think the reader will agree with me that the web of the geometrical spider is as pretty a piece of mechanism as one would wish to see). The following account of himself he wrote to a friend, and thus we have first-hand evidence of his spontaneity. He observes:—

> You say you should like to know my way of composing, and what method I follow in writing works of some extent. I can really say no more on the subject than the following, for I myself know no more about it and cannot account for it. When I am, as it were, completely myself, entirely alone, and of good cheer, say, traveling in a carriage or walking after a *good meal*, or during the night when I cannot sleep, it is on such occasions that my ideas flow best and most abundantly. *Whence* or *how* they come, I know not, nor can I *force them.* Those ideas that please me I retain in my memory, and am accustomed (as I have been told) to hum them to myself. If I continue in this way, it soon occurs to me, how I may turn this or that morceau to account, so as to make a good dish of it; that is to say, agreeably to the rules of counterpoint, to the peculiarities of the various instruments, etc. All this fires my soul, and, provided I am not disturbed, my subject enlarges itself, becomes methodized and defined, and the whole thought ere long *stands almost complete and finished* in my mind, so that I can survey it like a fine picture or a beautiful statue at a glance; nor

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[*] Mental Physiology, W. B. Carpenter, M.D.

[†] *Ibid.*, p. 229.

do I hear in my imagination the parts *successively*, but I hear them, as it were, *all at once*. What a delight this is I cannot tell! All this inventing, this pondering, takes place in a pleasing, lively dream; still, the *actual hearing* of the *tout ensemble* is, after all, the best. What has been thus produced I do not easily forget, and this is perhaps the best gift I have my Divine Maker to thank for. When I proceed to write down my ideas, I take out of the bag of my memory, if I may use that phrase, what has previously been collected into it in the way I have mentioned. For this reason the submitting to paper is done easily enough, for everything is, as I have said before, already finished, and it rarely differs on paper from what it was in my imagination. At this occupation I can, therefore, suffer myself to be disturbed, for, whatever may be going on around me, I write and even talk, but only of fowls and geese, or of Gretel or Barbel, or some such matters. But *why* my productions take from my hand that particular form and style that makes them *Mozartish*, and different from the works of other composers, is probably owing to the same *cause which renders my nose so*, or so large, so aquiline, or, in short, makes it Mozart's, and different from that of other people, for I really *do not study or aim at any originality*. I should, in fact, not be able to describe in what mine consists, though I think it quite natural that persons who have really an *individual appearance of their own* are also *differently organized* from others, both *externally and internally*. At least, I know that I have not constituted myself either one way or the other.*

This wonderful self-analysis of Mozart's is to us a revelation of that spontaneity or intuition which characterizes the methods of genius. He tells us that he composed best when quiet, when he was of "good cheer," after a good meal, or out in the open air, traveling or walking, but *how* his ideas came he knew no more than does the ant when it builds its ingenious nest, or the bee when it constructs its cell. It is plain to see that his earlier efforts were due *entirely* to an *inherited tendency* which enabled him without instruction not only to play upon instruments, but to compose or imagine fine and difficult concertos and quartettes at five years of age, just as the bee, ant, and bird create their dwellings without having studied the rules of architecture. His comprehensiveness of mind and of the science of Form is shown by his allusions to the peculiarities of his physiognomy and "outer and inner constitution," "the shape of his nose," etc., as representing a distinct individuality, one which revealed his particular characteristics by the peculiarities of its form, size, quality, etc. He tells us also that he does not *aim* at originality, and this is still another method of proving the *instinctive*, *intuitive* manner of his working, which produced superior musical efforts spontaneously and without purpose of aim.

The office and use of Intuition in the human mind is to arrive at a result with less labor than is demanded by the mere laborer's methods of reasoning. Not all who possess the faculty of Intuition are infallible in their perceptions, for this trait like all others is influenced by other faculties in combination. Large Intuition combined with large Conscientiousness would produce a most uncommon degree of *accurate*, intuitive insight, for this faculty must be founded upon truth to make its results accurate. Intuition *alone* may lead one astray. If each faculty of the mind could act separately and distinctly, uninfluenced by the others, then large Intuition would be *unerring in its operation.* Many persons who possess large intuitive powers possess also large reasoning faculties, and these offer great assistance in the domain of pure intellect in abstract thought. These two powers of mind were large in Shakespeare, Newton, Kepler, and others who have evolved and discovered great laws and systems of Nature. The physiognomies of the above-mentioned persons exhibit all these signs, but in each case they have had the *assistance* of a good measure of *Conscientiousness* as a foundation upon which to rest and by which to test their ideas and theories. No single trait can operate alone, but must act in conjunction with others, just as in the body no separate organ can functionate without the co-operation of several others. The heart beats, but at the same time the lungs respire, the brain is moved to action, the blood circulates, and the process of assimilation goes on all at once, and each affects the other, without the consent of any. In the same manner when we commence with the design of using one mental faculty, it has the assistance *unasked* of several others at the same time.

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* Mental Physiology, W. B. Carpenter, M.D., p 273.

The action of Intuition is not confined to geniuses, although in them it has its largest manifestation. It is found in many grades of mentality, and is often the compensation which Nature makes for those who are lacking in some other direction, as, for example, in the practical or observing faculties; or, in other cases, it takes the place of deficient reason or assists the weak. Intuition should be cultivated and developed, for not all who manifest this trait are geniuses, and, as before remarked, it may be the compensation for serious deficiencies.

It cannot be denied that women, as a class, possess a more general and universal endowment of this trait than man, and where it is largely exhibited in man it is usually an inheritance from some female ancestor, near or remote. Very few people know anything about the looks, physiognomy, and personal appearance of their ancestors three generations or more back of them; hence, in deciding from whence certain traits have come, the mass of people must depend upon the light which scientific physiognomy throws upon the subject. Certainly the science which can teach us how to trace the entire course of animal evolution in the face can quite easily find the source and origin of all faculties whose signs are imprinted upon the countenance and exhibited in the walk, the voice, the gesture, the handwriting, the movements, and habits of body and mind. There is nothing occult or mysterious in all this; the faculties which are used in the investigation of other sciences are those which are used in discovering all these phenomena, and among them Intuition—insight, or a natural capacity for discerning the laws and operations of Nature—stands pre-eminent. It is one of the faculties upon which the physician and teacher rely for their power to heal and teach, and all great or eminent physicians and teachers exhibit the signs of this faculty. The physicist, scientist, and naturalist, too, must be endowed with high intuitive powers, else they will fall far short of the requirements of their profession. Artists in every department, if they achieve a high rank, possess this trait. Celebrated poets, painters, actors, orators, etc., are largely indebted to the operation of Intuition for their greatest efforts, for they, like Mozart, must be able without "aiming" at excellence to attain it in a spontaneous manner. This faculty lies at the base of all great inventions and discoveries in natural law. It assisted Newton in his discovery of the great laws of motion and Darwin in his discoveries of the laws of natural selection. I advise the reader, if he wishes to note the manifestation of an intuitive and observing genius, to read the "Origin of Species" and the "Descent of Man," by Charles Darwin, whose works have made an epoch in scientific thought, and have revolutionized natural science in this century.

The investigation of human nature, both in regard to its mental and bodily manifestations, is greatly aided by Intuition, for in intercourse with our fellows we must be able to *immediately* detect existing conditions of mind, and their grade or status of character. Without some natural provision of this sort we should be obliged to carry about with us certificates of character signed by those who have had experience with us, or else wait for years of acquaintance with each other before we could acquire positive knowledge of each other's characters; hence, character-reading is an ordinance of Nature, and common alike to man and animals. Lavater, Porta, Cicero, and many others were *geniuses* in this direction, and *divined*, as it were, the characters of those with whom they came in contact; yet Intuition is not Human Nature, but each depends upon the other for assistance. All of the higher faculties of mind are more and more complex in their operation and manifestation as they rise in rank, and it takes the highest and most finely organized faculties to comprehend in a talented manner the *rationale* of this complexity.

Thus we see in every century a few men and women who have shone resplendent in their intuitive comprehension of character. Shakespeare, among intuitional character-readers, takes first rank. Yet the number of physicians, scientists, orators, inventors, artists, and discoverers who have been possessed of talent and even genius in this direction is legion. It is highly essential to the actor, to enable him to comprehend, seize upon, and portray the emotions which stir the hearts of the masses, and arouse them to action. In woman, as the mother of the race, however, is the highest degree of Intuition needed and manifested, for the comprehension, training, education, and government of children requires its greatest power, and in this department of life the most universal and constant degree of intuitive insight is exhibited, rising in some instances to positive genius in this direction.

Intuition is a conservator of life, for by the insight into character, motives, and health conditions its possessors are *forewarned* of that which would be hurtful. Indeed, this faculty, like all sciences, is one of Nature's methods of foreknowing—of prevision and of protection.

Children in most instances possess a high development of Intuition, but, like many infantile instincts, it is stifled by the accumulation of technical and experimental knowledge which they gain by age and education. Most children, like many animals, instinctively feel the characters or *tone* of those about them, and even in infancy are attracted or repelled by the personal appearance, physiognomy, or magnetic atmosphere or aura which is thrown out from those with whom they come in contact. This intuitive "sensing" is their only method of knowing people, and of protecting themselves until experience and acquaintance have given them other methods of distinguishing character and conditions.

When we come to an investigation of the animal kingdom we shall find the highest forms of Intuition, not excelled even by human genius, for it must be understood that in the case of animals it is the acquisition of ages of practice in given directions which lead them so *unerringly* to do those things which are scornfully termed by man "instinctive," and which are looked upon by him as mere automatic acts, inferior to the reason, observation, and calculation which man uses in his works; yet when this same automatic, spontaneous talent is exhibited by an Arago or a D'Alembert in the science of numbers, or by a Coleridge, a Hartley, or a Byron in poetry, by a Mozart, a Bach, a Haydn in music, we enthrone them among the greatest of earth's geniuses, while eminence, riches, and immortal fame await them. Genius acquires its gifts precisely as the animal acquires his automatic powers of building, providing, path-seeking, and character-discerning, viz., by an augmented and intensified transmission of powers, which by long usage upon the part of ancestors have become incorporated into the very *constitution;* or perhaps by the action of some obscure and hidden law of heredity and selection the germ of life of the genius has become vivified in some favorable maternal *nidus*, and, thus endowed, it shines forth resplendent in the world of mind or art, and we have a Cicero, an Aristotle, a Bacon, a Shakespeare, a Michael Angelo, or a Herbert Spencer; and the unthinking, unscientific world, looking up to the achievements of these men, exclaims: "From whence comes all this splendor? Neither father nor mother were like unto these." So slight is the knowledge of human beings in regard to their powers and natures that it sinks into insignificance when compared with the instinctive genius of animals, who, *without instruction*, can produce buildings, domiciles, nests, combs, dams, and webs founded upon the highest laws of architecture. They can trace their course through the boundless spaces of ether, and return to their homes without chart or compass; and all this they are able to do from birth, without education or training. What human genius has ever been able to accomplish this? In presence of such *facts* it becomes us, human mortals, not to be too *conceited*, *egotistic*, or top-lofty, but, in all conscientiousness, and in a spirit of comprehensiveness, to acknowledge that this wonderful *instinctive* knowledge of all the animal tribes is their compensation for the lack of the *hands* and developed *cerebrum* of man. Very happily has George Henry Lewes remarked that "Instinct, like chance, is one of those words which men use to conceal their ignorance." Yet the manner in which they use it betrays to an observant person the very thing which they would conceal.

One might fill volumes with accounts of the intuitional genius of animals. I bring forward no examples here, for they are all about us, and as numerous as the sands of the sea; hence it is needless to point to any special cases, for their number is exceeded only by their marvelous ingenuity. In some directions the humblest animal is superior to man; yet, by virtue of man's possessing hands, speech, an upright position, and a more complex brain and nervous system, he stands at the head of the animal series. Intuition is a gift which man shares in common with all the higher animals, differing in degree, yet the same in kind.

The portraits in this chapter are most of them those of superior persons, hence, as the reader has doubtless observed, very few deficiencies have been noted in their faces. In the chapter which follows there will be displayed and described the physiognomies of many defective and abnormal beings, such as the criminal, the feeble-minded, and the undeveloped. The reader can institute comparisons between these and those. This course will afford a fine opportunity for discerning the differences existing between those who are highly developed in all parts of their organism and those who are greatly lacking in certain departments, and also between those of high and those of low quality. The subject of *beauty* according to art-standards has not been considered in this chapter. A *scientific* delineation of the face reveals meanings which art fails to expound as beauties; for the most part, art considers as beautiful the most infantoid forms of features and outlines of faces,—that is, those abounding in curves. The higher and more severe styles of beauty, viz., those which reveal the square and cubical forms, art does not, as a rule, consider beautiful.

The reader of the preceding pages has, I opine, learned that beauty of character appears in all normal forms, and that whatever form reveals genius, talent, morality, physical power, or capacity for usefulness may well be considered as beautiful. In order to have a comprehensive view of the human face and its associated character we must *enlarge* our understanding of the meaning of Form, and come to learn its inherent significations. We must, in short, come up higher into the domain of scientific knowledge,—into the adult stage of mind,—and from this height learn, accept, and apply what Nature reveals to us of the human physiognomy.

CHAPTER III.

THE HUMAN FACE IN OUTLINE, MOTION, FEATURE, EXPRESSION, AND COLOR.

> **"The history of a man is his character, and his character is written on his organization and might be read there had we but senses acute enough to decipher the organic letters. There is not a thought of the mind, not a feeling of the heart, not an aspiration of the soul, not a passion that finds vent, not a deed which is done, that is not graved with an unfailing art in the structure of the body; its every organ and the constituent elements of each organ grow to the fashion of their exercise, and there is nothing covered that might not be revealed, nothing hid that might not be known."—H. MAUDSLEY, M.D.**

EVERY form in Nature reveals its own history. In order to be able to read this history, we must learn to apply the alphabet of form, and thus spell out the entire signification of the human face and body. Every motion expounds its own purpose. Natural gestures are a part of the personal form, correspond to it, and are as individualized as the features.

The outline or contour of each human body is a circumferential entity. Each distinct limb and feature is a fragment of this entity, and declares the homogeneity of the whole.

Each color and shade reveals the health conditions, native force, integrity of the tissues, and the intensity of the emotions.

The human physiognomy is the highest and most perfect of forms, because it includes, sums up, and expounds all form, hence contains the record of all lower forms and illustrates the laws of form and motion. Not only does each individual human countenance unfold its own bodily and mental status, but it is also the index of countless ancestral traits, types, and influences. Every face announces its possessors, grade in morality, mentality, and physiological activity, as well as his racial connections and national descent. It reveals also his mental aptitudes, often his sectarian proclivities, his habitual pursuits, his vices and his virtues, both active and latent, and to the scientific physiognomist it *sums up* the totality of its accompanying character.

The laws of muscular motion (from the action of which expression mainly proceeds) must be rightly comprehended in order to understand and translate motion and form into character. The two kinds of expression, permanent and transient, depend almost entirely upon the motive apparatus, viz., upon the bones and muscles, for the power to express thought, feeling, and emotion, or the lack of them. It is true, that the soft tissue—the adipose matter of the face—assists expression and co-operates with muscle in producing dimples, wrinkles, folds, and outlines, while the nerve of the eye adds its quota of expression by its quality and activity. The muscles of the face are related to every part of the brain and to every internal organ through their nervous connections. Were it not for this intimate cerebral and visceral relation, the face could express neither thought nor emotion, hence there would result no more *beauty* nor *variety* of expression than is observed in the countenance of a dog or horse.

Thus, it is shown that each system, each tissue must be interrogated, and its constituents and character as well as its method of action be known, before passing judgment upon an individual. The *outline* exhibited by each separate being is an *epitome* of the entire character. The attitude habitually assumed, both in action and repose, is highly indicative of the man. The *movements* of the body in walking, and of the gestures of the limbs and hands, together with the accompanying movements of the head, are most decisive signs of inward mental and moral states. How rational must this last assertion seem in face of the fact that when an actor wishes to represent a character he alters his walk, his gestures, and habitual position to suit the one he would portray; and the walk, gestures, and movements of a noble character, how different from those of an ignoble one! All this goes to show, not only that the forms of the internal organs create different external shapes and varied phases of character with different degrees of power, but also proves that the contour or outline of the body, which is created by certain internal combinations of organs and systems, reveals the main design or animus of the individual. As forms are produced by the law of motion, so the mode of individual motion is indicative of the character thus produced. No postulate can be sounder than this. Contour and motion, then, are the first subjects for consideration in this chapter, as they are the first phenomena which strike our senses when a stranger approaches us.

This may not be evident to our perception, so accustomed have we become to the movement forward toward us of others; and so instantaneous and instinctive is our reception of the impression which we glean from the approach of an individual or of his retreating form, that many will believe that they receive the first intimation of his character from the expression of the face; but as it often occurs that our first sight of one is a sidewise view or from behind, and when in motion, as in walking, gesticulating, etc., we consciously or unconsciously derive some accurate and important impressions from these circumstances,—ofttimes most vivid and startling ones, too, when the motions and gestures are energetic. As the individual approaches nearer, the *features* next command our attention, and then the general expression, color, and

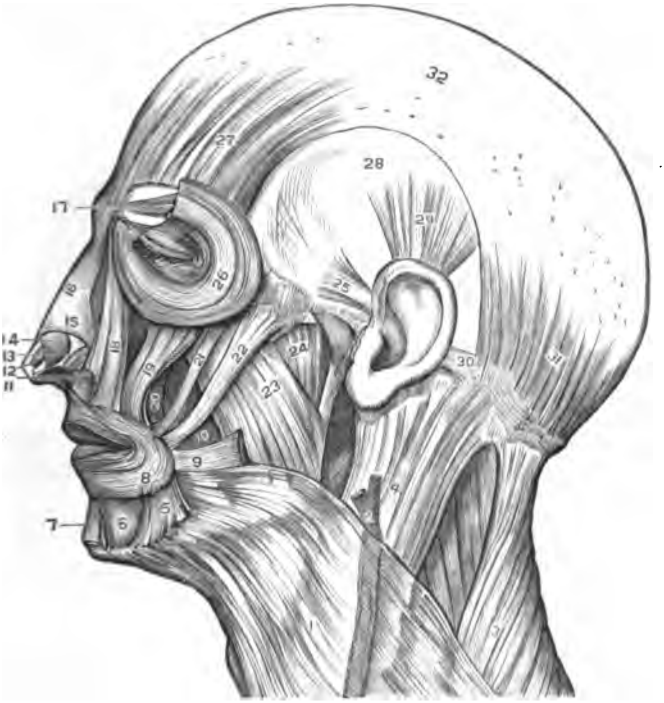

FIG. 126.—THE MUSCULAR MECHANISM OF THE FACE.*

1. **Platysma myoides.**
2. **External jugular vein.**
3. **Trapezius.**
4. **Sterno-cleido-mastoid.**
5. **Depressor anguli oris.**
6. **Depressor labii inferioris.**
7. **Levator menti.**
8. **Orbicularis oris.**
9. **Risorius.**
10. **Buccinator.**
11. **Depressor alæ nasi.**
12. **Compressor narium minor.**
13. Dilator naris posterior.
14. Dilator naris anterior.
15. Compressor naris.
16. Pyramidalis nasi.
17. Corrugator supercilii.
18. Levator labii superioris alæque nasi.
19. Levator labii superioris.
20. Levator anguli oris.
21. Zygomatic minor.
22. Zygomatic major.
23. Masseter—superficial portion.
24. Masseter—deep portion.
25. Attrahens aurem.
26. Orbicularis palpebrarum.
27. Frontal portion of occipito-frontalis.
28. Temporal fascia.
29. Attollens aurem.
30. Retrahens aurem.
31. Occipital portion of occipito-frontalis.
32. Tendinous aponeurosis of occipito-frontalis.

A close study of the above figure will go far toward enlightening the reader as to the very important part which the muscular system plays in the expression of character as shown by the face. Observation of this figure will soon convince the investigator that one well endowed with a fine muscular system is better able to express emotions than one who is greatly deficient in the development of this tissue. Examine attentively the muscles of the chin, the cheeks, the lips, the nose, and those of the mouth, and you will learn why it is that an organism which has inherited a fine development of the muscular tissue is capable of great mobility and variety of expression. The development of the muscles at the point of the nose is remarkable, and reveals to us the origin of the several signs of character which I have discovered and located there. It should be understood that muscular development varies in every subject. Undeveloped and barbarous peoples do not exhibit as fine a nasal form as do the civilized races, and among the latter there is as great a difference in the degree of development of the nose as there is in the external form of that organ; and this is also true of each facial feature, as well as of the limbs and trunk of each subject.

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* From Gray's Anatomy.

voice. These are all combined, taken up instantaneously into our common sensorium and there announce themselves as a concrete whole, and we, with lightning-like rapidity, "sum up" the person and pronounce our verdict upon our conceptions of his status, and pass opinion as to our like or dislike of his personality.

The superior power of the face as a revelator of character to that of the skull is recognized by all intelligent writers on anatomy, for the reason that they are aware of the superior power of the fifty-five muscles of the face to express emotion. The contour of the skull always harmonizes with the body to which it is attached, but it is impossible to draw from it alone that *accurate* and *comprehensive* knowledge of character which can be deduced from a view of the face alone. The form of the head corroborates the form of the face and body, and phrenologists make their best "hits" by observation of the upper part of the face, about the eyes and eye-

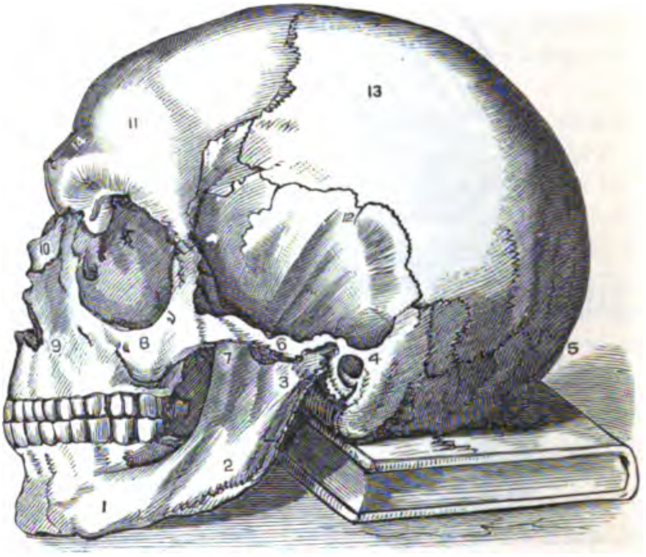

FIG. 127.—THE OSSEOUS FORMATION OF THE FACE.*

1. Inferior maxilla.
2. Angle of inferior maxilla.
3. Condyle of inferior maxilla.
4. Mastoid portion of temporal.
5. Occipital.
6. Zygoma.
7. Coronoid process of inferior maxilla.
8. Malar bone.
9. Superior maxilla.
10. Nasal bone.
11. Frontal bone.
12. Temporal bone.
13. Parietal bone.
14. Superciliary ridge.

The above figure gives a good idea of the solidity of the foundation of the face and head. A good osseous endowment is a grand inheritance, for it gives stability and reliability to the character. The teeth are not reckoned among the bones of the face, as they are tegumentary in character and belong to and reveal the condition of the alimentary tract in a large degree. The joining of the bones by sutures, which dovetail as it were into each other, is a marvelously fine piece of mechanism. The protection which the prominent eyebones affords the eye is still another manifestation of high architectural power. The parts of the bones of the face which express the greatest degree of stability are shown by a well-developed chin and jaws, nasal bones, frontal sinuses, and superciliary ridges.

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* From Wells' New Physiognomy.

brows, for here is expressed more varied character in the formation of the bones than in other portions of the head.

The following opinion of Gray, one of the most celebrated of anatomists, in regard to the superiority of the face as an indicator of character, is most emphatic:—

> A word on the lines of the face as indicative of expression. Every one pays unconscious homage to the study of physiognomy. When scan-

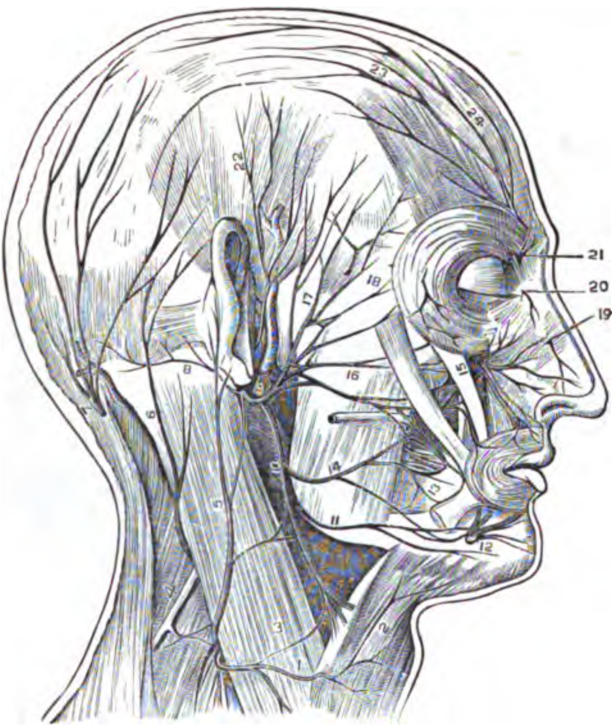

FIG. 128.—THE NERVOUS DISTRIBUTION OF THE FACE.*

1. Superficial cervical.
2. Platysma myoides (muscle).
3. Sterno-mastoid (muscle).
4. Spinal accessory.
5. Auricularis magnus.
6. Occipitalis minor.
7. Great occipital.
8. Posterior auricular.
9. Fascial.
10. Infra-maxillary.
11. Supra-maxillary.
12. Mental.
13. Buccinator (muscle).
14. Buccal.
15. Infra-orbital.
16. Malar and infra-orbital nerves.
17. Temporal.
18. Termination of temporo-malar.
19. Termination of nasal.
20. Termination of infra-trochlear.
21. Termination of supra-trochlear.
22. Temporal branch of auriculo-temporal.

23, 24. Supra-orbital.

The affluent distribution of the nerves upon the face reveals why it is that the face is so well able to express both temporary and permanent conditions of the entire organism. The muscles and nerves act in harmony, and together reveal the feelings and sensations, and by the co-operation of these two systems the movements of the face express what is passing in the consciousness of the subject. The more highly organized the facial nerves the more sensitive is the subject, hence, the better able is he to feel and express the more delicate grades and shades of emotion, as well as a greater variety of sensations than he who is less well endowed in this respect. Where the nervous distribution is elaborate and of the highest quality, in combination with an equally high development of muscle, we find the highest power for facial expression, as well as for sensation, as is observed in actors.

* From Gray's Anatomy.

ning the features of a stranger, he draws conclusions concerning his intelligence, disposition, and character. Without discussing how much physiognomy is really worth, there can be no doubt that it is a mistake to place it in the same category as phrenology, since the latter lacks that sound basis of physiology which no one can deny to the former. The muscles of the features are generally described as arising from the bony fabric of the face, and are inserted into the nose, corners of the mouth, and the lips. But this gives a very *inadequate idea* of their *true* insertion. *They drop fibres into the skin along their course, so that there is hardly a part of the face which has not its little fibre to move it.* The habitual recurrence of good or evil thoughts, the indulgence in particular modes of life, call into play corresponding sets of muscles, which by producing folds and wrinkles give a *permanent cast* to the features and speak a language which all can understand and rarely mislead. Schiller puts this well when he says that "It is an admirable proof of infinite wisdom that what is noble and benevolent beautifies the human countenance; what is base and hateful imprints upon it a revolting expression."†

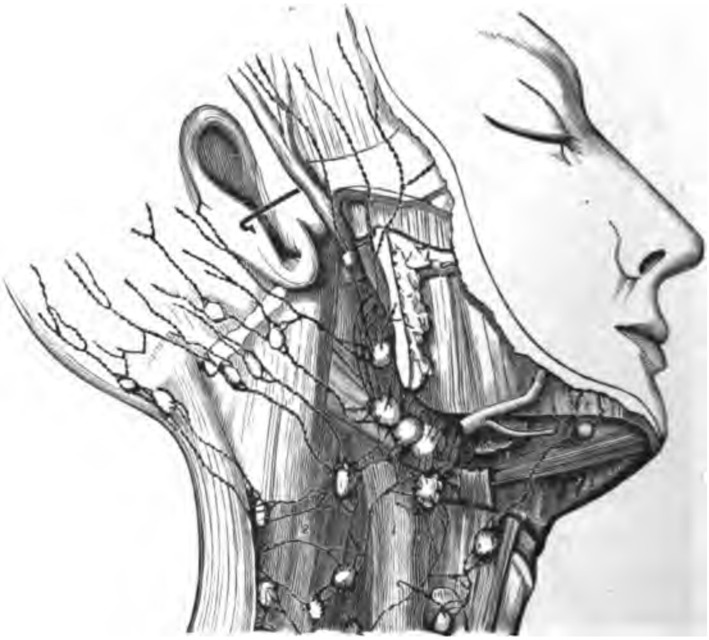

Fig. 129.—THE GLANDULAR FORMATION OF THE FACE.*

. 1. INTERNAL jugular vein. 2. DEEP cervical glands.

The above figure discloses the position of the glands of the face and adjacent parts. These vary in size in each individual, some being more richly endowed in this respect than others. In those who have inherited consumptive or dyspeptic tendencies, the glandular development is not so great as in those who possess a normal degree of this system. The glandular system is the base of supply of the domestic and social faculties; hence this tissue is a very important one, and its perfect organization is very much to be desired.

Let me add here, that until people generally understand the significance of certain expressions observed in the human face, they will not be able to determine which are benevolent and which are base. I discover beauties of expression in countenances which many other beholders term "homely," and sometimes "ugly." On the other hand, I perceive signs of moral weakness, of mental deficiency, of malice, spite, and revenge in some faces which the majority denominate "handsome," and even "beautiful." How is this dense ignorance to be removed? Simply by an application of the laws of scientific physiognomy, by observation and comparison, just as is the method of procedure in all other branches of knowledge.

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* From Gray's Anatomy.

† *Ibid.*, p. 919. Philadelphia, 1878.

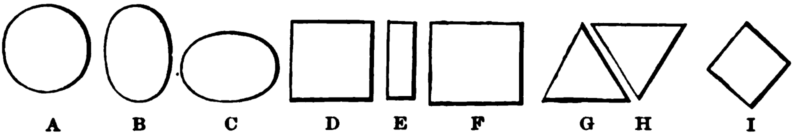

FIG. 130.—GEOMETRICAL FORMS OF THE FACE. (After Lavater.)

The outlines in the above figure are those which are most usually observed in the forms of the human face.

The first figure (A) is a primitive form,—globose like all infantoid objects. It is the shape more nearly of the infant's face and head,—also of the vegetative adult.

The second shape (B) is a modification of the former, and corresponds closely to the form which infancy assumes in its transition from infancy to childhood, hence is more nearly the distinctive contour of youth,—as, also, of the adult, muscular subject.

The third form (C) is a muscular form, and is found slightly modified upon the faces of short, squat, and relatively undeveloped adults. It is breadth without height, and this form is a low variety of the muscular class, and denotes commonplace, selfish, vulgar character, with commercial or grasping propensities.

The fourth outline (D) describes the form of the face of the highest type of character,—the cubical, such as is observed in the countenance of Martin Luther; it denotes solidity, equilibrium, reliability, rectangularity.

The fifth figure (E) illustrates angular character, and is a modification of the cubical, but lacking in the qualities of breadth and balance, which distinguish the cubical individual; at the same time it denotes honesty with narrowness.

The sixth (F) is a sort of caricature or burlesque upon the cubical character, and is a form of face rarely observed. It would declare a character solid, but not so well balanced as that of the one exhibiting the cubical form of physiognomy, yet preserving many cubical characteristics.

The seventh figure (G) belongs to a common variety of the vegetative class; the addition of two curves will create this type.

This form indicates large feeding powers combined with small thinking ability.

The eighth outline (H) is the pyriform-shaped face—*angled*, so to speak. This outline, with slight curvings, illustrates the brain form dominant, the power for thought combined with feeble nutritive powers.

The ninth form (I) is first cousin to G, and shows the same character on a larger scale, with more ability both for eating and getting; breadth here as elsewhere counting for something,—that is, for more capacity.

These are bare outlines, yet I believe every face is patterned after one or the other of these forms. They are modifications of the five most general shapes of the face, and are to be found universally present in the physiognomies of both civilized and uncivilized races.

Sir Charles Bell's ideas of the superiority of the face are as emphatically expressed in his work on the "Anatomy of Expression." He observes:—

> The truth is that we are more moved by the features than by the form of the whole head. Altogether independently of phrenology it has, of old time, been acknowledged that fullness of the forehead, combined with those forms which have been noticed, is an indication of intellectual capacity, and, as we have shown, of human character and beauty. *Nearly all* physiologists have agreed in this view; while some are equally confident in affirming that anatomy affords no foundation for mapping the cranium into minute subdivisions or regions. As Nature, by covering the head, has intimated her intention that we shall not too closely scan our neighbor's

capacities, she has given us the universal language of *expression*. Man is gregarious; he looks for sympathy; it is not good for him to be alone; he solicits a unity of sentiment, and the *language which expresses it is in the face*.*

In the preceding we have the testimony of two of the most eminent writers on Anatomy as to the superiority of the face as a revelator of character. I could fill a volume with evidence as conclusive from hundreds of other practical anatomists, but let these suffice; they cannot be gainsaid.

THE FIVE GENERAL OUTLINES OF THE FACE.

There are five general outlines of the head and of the face, and these outlines are caused by the shape and degree of activity of the internal organs, as well as by the outward muscular and bony framework. The globular outline of the face is accompanied by a low, broad, and rounding head and forehead; puffy cheeks; slow-moving eyes; soft, fat, double or triple chin; large mouth; full lips, and short, broad, and depressed nose. This form indicates mere domestic character, a good eater, sleeper, and sitter; a sort of human vegetable. (See Fig. 7, p. 67.) The dominance of the thoracic system, caused by the development of the lungs and liver, evolves a face which exhibits a rather long nose and prominent (particularly at the point), large nostrils; an acutely-defined, receding forehead, and in youth the lower part of the face inclined to the oval, except where square bones are present. It also produces a high, arched chest; bright, active eyes, quick motions, and lively gestures. This outline reveals a pure-minded, hopeful, cheery, and active character. (See Fig. 8, p. 72.)

The muscular form is characterized by roundness and curves, and is caused by the shape and action of the muscular or fibroid organs,—viz., by the peculiar shape and action of the stomach, the heart, and the reproductive system,—and the dominance of these organs produces the externally rounded, oval, and curved muscular development observed in artists, athletes, etc. The outline of the face (when this system is supreme, or one of the regnant systems of the body) is rounding; the forehead nearly perpendicular; the nose straight, relatively short, soft, and rounding; the face inclined to the oval; the eyes prominent; the head round; the eyebrows arched; the mouth of medium size; the chin oval or pointed. If the round muscles are present, the chin is inclined to the oval; but if the flat muscles are exhibited, the chin is more inclined to be pointed or narrow. (See Fig. 9, p. 75.)

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* Anatomy of Expression, Sir Charles Bell, pp. 29, 51. (The italics are mine.)

The osseous outline of the face is shown by a rectangular form; the forehead inclined to be square; the eyebrows horizontal; the chin long, broad, and angular, rather than oval; the nose high, long, and bony; the cheeks rather prominent, and the superciliary ridge projecting. (See Fig. 10, p. 84.)

The fifth form of the face is caused by the supremacy of the brain and nervous system, and the form and action of this system gives a pyriform shape to the face, which is inclined to be narrow, with a delicately-molded chin, a long and thin nose, thin cheeks, eyebrows somewhat inclined to arch, although these will take the shape of the underlying bones. If these are square, the eyebrows will assume a horizontal form; if they are rounding, the brows will arch. The forehead is high, broad, and generally full, especially in the upper part, as well as perpendicular. (See Fig. 11, p. 94.)

These are the five superior outlines of the human face. All others are caused by combinations or modifications of these principal forms.

The student should be able by observation to judge how much of each of these several systems is present, and be able to estimate the comparative influence of each system in revealing character, as well as to know which are *dominant* and which is the *second* most influential in its effect. This can be determined by applying the law of the ovoid or sphere, the law of the square, angle, and straight line, to *each one of the features, and to each portion of every feature.*

MOTION.

The movements in walking, gesticulating, working, playing, etc., reveal the mind of the individual as well as his native and acquired powers.

The motion of the body and limbs in walking disclose and repeat the external configuration of the body.

Movements of the hands in gesticulating bear direct relation to the mental status,—the emotional nature,—and establish one's grade in the scale of development.

The set or position of the feet in standing harmonizes with the contour of the body, and reveals a great deal of the character. Now all these movements are the spontaneous expressions of the *real inner* man, hence are of the highest value in interpreting character. As *motion* is the underlying principle of all growth and development, it is *necessarily* the exponent of the organisms when they are perfectly developed or completed, as has been shown in the "Basic Principles of Form." A square-built man, with an upright mien, moves in a straight line, with measured, methodical steps, showing the presence of Order, Time, Precision, and Measurement, the qualities which inhere and appertain to that particular form.

A person with narrow, sloping shoulders, long and thin build, long and narrow head and slim feet, will pursue a devious, winding, zigzag, serpentine course, as he threads his way along the street, without precision or regard to order. This form has not the regularity of movement of the square-built mechanic, nor the perfect curve of the artistic man, for he is neither one nor the other, and his gait discloses his status or rank in humanity; he is a *perverted* being, for no *true* specimen of humanity pursues this winding, eccentric mode of locomotion, and this last example teaches us that this malformed being has not been bred by normal methods, but that the countless motions of the nerve-forces and muscular fibres which assisted his prenatal growth were abnormal and eccentric. How truly does the following express the action of this law:—

> Every organism, from the lowest to the highest, can only work out those laws of motion by which its organization has been produced. The bee in making its cell copies the hexagonal facet of its own eye. The snake in its motion on the ground and in coiling itself around its victim, follows the law of its own construction. Fundamental laws are the fundamental instincts of motion in life.*

The perfectly curved motions of a well-formed artist, actor, or athlete, illustrates the law of the true curve (the segment of a circle). With these people the law of their motion in walking, in gesture, and in the exercise of their several pursuits, is exhibited by true, graceful, curvilinear motions of the body, hands, head, and limbs. The organs and organisms of all those who are *perfectly* curvilinear have been produced by normal, regular motions of the *fluids* and *forces* involved in their construction. Therefore, they present *true*, *regular*, *normal* curvation in all their members and movements; hence are able to execute *true* curves in the sway of the body in walking and dancing, of the hands in painting or other art works, as well as in posing, playing ball, rowing, swimming, etc.

The abnormally constructed being, who is not formed upon a true square nor a true curve, discloses his abnormal build by awkward and inapt movements, and can never be trained to perform easy, graceful movements, nor those which are essential to art-works, with the same degree of perfection as can the normal, curvilinear being, although he can be very much improved mentally and morally, by precept, example, and encouragement. Such beings come into existence under unlawful conditions. It is *no fault of theirs*, but it is our fault if we judge them too harshly and ridicule and revile them, instead of endeavoring to "square" them by all the knowledge and patience which we can bring to bear. These abnormal growths are observed in the vegetable kingdom as well as among crystals. Who has not seen a flower perfectly developed upon one side, while the other was very defective in its formation? This defect is owing probably to deficiency in nutrition or the inability of the juices and sap to carry equal quantities to both sides; hence the law of "Sinistrality," or one-sidedness, operates to produce this deformity, just as is observed in the peculiar crooked foot of some congenital thieves, or the oblique eyes of natural liars, for—

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* Sexology, p. 247. Chicago, 1867.

> The laws of motion are always regular, when undisturbed, and where the surrounding conditions are uniform, as seen in the formation of crystals and snow-flakes. If the division were unequal, the dividing line would not be true. The parts must be equal, because the laws of motion in a rotating body require and compel a perfect equilibrium or balance of motion on each side of its axis.*

GESTURES.

Natural gestures are in a pre-eminent degree indicative of character. The circumscribed and incomplete gesture of the secretive person is in marked contrast with the wide sweep of the hand and arm of the frank, friendly individual; so, also, the narrow-minded or cautious person will make very few gestures, and these with the arm fast to the side, and with the back of the hand turned outward or sidewise, and not with the palm open, and with only a feeble attempt at a curve; while the man with a frank, broad, and comprehensive mind makes a wide sweep of the arm and hand, as if he would embrace all creation in the area described, and with his palm outward and upward. The angular individual makes "elbows," and angular, jerky movements of the hands and head. His walk is also characterized by jerky motions, and often his utterance will be far from smooth and uniform; particularly is this the case in reading, unless he has been well trained in this respect. So homogeneous is man's nature, that a *peep* at his *knuckles* will reveal his method of speech and gait.

The gestures, carriage, and movement of an ignorant person are quite different from those who are by nature intelligent. To prove this it is only necessary to observe for a short time these two classes. Ignorant people, or those who are stupid by nature, make fewer gestures than those whose natures are more richly endowed. The reason of this is that the more sensitive being *feels* and *thinks* more, hence possesses a more mobile and plastic body. Stupidity is always accompanied by a body which harmonizes with it, hence we observe that stupid and narrow-minded people are ungraceful, and, if they make gestures at all, they are awkward and inappropriate, and this at once betrays their mental status; while the few gestures which they make, being natural to them, will be a reflex of their dominant powers, both mental and moral. A study of the gestures of the *ignorant*, *stupid*, *and criminal* will yield a harvest of knowledge in the science of Form, for a gesture made by the hand or arm, or a movement of the body in walking or in working, is as much a shape as though embodied in substance.

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* *Ibid.*, p. 143.

Congenital or professional criminals, as a rule, use very few gestures, for they are usually very secretive, and a secretive man never moves with the freedom of an upright character. All of their movements are comparatively restricted and stealthy. I cannot imagine a natural "crook," as they term themselves, standing with arms outstretched, palm outward, head erect, and with eyes looking upward to heaven. This position would be entirely foreign to his nature, hence never assumed by him. The terms which this class of people use is characteristic and doubtless *instinctive*, as, for example, the use of the word "crook" to designate themselves; and herein is another proof of the homogeneousness of mind and body. Instead of using free and frequent movements of the hands, arms, and head, they confine themselves to *stealthy*, *sidewise*, *oblique* glances, just as do the timid and nocturnal beasts of prey, whose natures resemble these human beasts of prey. The jerk of the thumb is one of their peculiar gestures. This can be used in a less noticeable manner than a movement of the hand, and is, besides, harmonious with the contracted natures of this defective class of beings. Who that has ever observed two of this class in conversation will have observed that, upon finding themselves the objects of scrutiny, one would signal to the other with a *sidewise* movement of the thumb, together with a *sidewise* glance of the eye, very quietly done, with scarcely a perceptible movement of the shoulder or body. Now, there are many other movements and gestures peculiar to this class, which must be observed to be understood. They are as distinct and characteristic as the gestures and movements of every other class of minds. Each profession, as well as each sex, exhibits gestures and movements peculiar to itself, for all gestures are dependent upon the forms of the body, and by observation we can very soon classify them, and assign each to its own proper position.

Mechanics gesticulate and pose quite differently from the professional man. Each profession *moves* differently. The actor's movements are different from those habitually made by the clergyman. A man of the world—of society—has an entirely different bearing and movement from that of the purely domestic man. It is thus shown that the movements and gestures of each class and of each sex are a record of their character, pursuit, and natural powers of mind and body, for "all form indicates character," no matter whether that form is concreted with substance or not. The wreath of steam arising from the steam-pipe of a locomotive assures us of the circular form of the instrument which produced it, and the walk, gesture, position, and motions of each individual are forms *thrown off* from their organisms, and will reveal the shape of the bodies from which they receive their impetus.

Comparison of the form of the body with the motions it creates will reveal the character expounded by both.

Study the habitual gestures, movements, walk, and attitude of those whom you desire to know, and you will be richly rewarded, for, says Lavater:—

> Each man has his favorite gesture, which might decipher his whole character were he observed with sufficient accuracy to be drawn in that precise posture. Of equal utility would be a series of drawings of the *motions* peculiar to individuals. The number of these in lively men is great, and they are transitory. In the more sedate they are less numerous and more grave.*

All motions produce forms which are a part of the subject producing them. The numerous motions caused by the play of the facial features are wonderfully indicative of character. The forehead, it is true, is almost immovable, but the eyebrows, corrugators, and palpebral muscles move with rapidity and produce numberless expressions; so also do the muscles and fibres of the lower lid and parts adjacent imprint a lasting and truthful record upon the countenance. The nose, another great central organ, is immovable in its upper portions, but the nostrils are flexible, and by their size and shape tell us of the form and rate of motion of the blood in the internal organs,—the heart and lungs. Here, again, we have the record of both form and motion co-ordinated. The shape of the eyeball and the commissure tells us what shape the motions and gestures will assume. The full, round, *convex* orb reveals round muscles; hence, the gestures will be true curves, the pose of the body graceful, the movements in walking, dancing, playing, and in art-works will be easy, regular, and curvilinear; for the eye is the indicator of the condition of the entire muscular system, and from an inspection of this single facial feature we arrive at a knowledge of a great share of the character, for "all is contained in the least."

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* Essays on Physiognomy, Lavater, p. 308.

MOVEMENTS.

The mouth presents an infinity of movements, and when in repose one could scarcely believe it capable of such numerous, complex, and beautiful expressions. It is the most mobile of all the features, not excepting the eye. The mouth has interior agents or assistants in the larynx, the palate, the tongue, and walls of the mouth, and many of the movements in speech arise in these organs and parts; but the *form* and *size* of the mouth will indicate to a scientific physiognomist the kind of language which will proceed from it, for language is based on sound, and sound is one *mode of motion;* hence, in the action of this facial feature we again find the co-ordination of form and motion. The *active* characteristics of the individual are disclosed by the movements of the mouth and surroundings and by the resulting expressions, for "out of the fullness of the heart the mouth speaketh." Let one, for a few moments, watch the movements of the muscles of the mouth and note the resultant expressions, and also the permanent imprint which these muscles have left about the mouth, and he will have an excellent idea of the dominant moods as well as of the quality or kind of language most affected by the subject under consideration. The more hypocritical the subject, the *more will this fact be evidenced* by the fixity of the muscles involved in the masquerade of thought and emotion.

If the human face were immovable we should not be long in learning the meaning of the outlines of the whole and of the shape of the features, but as *motion creates the greater part of its expressions and meanings* we are obliged to study the laws of motion as applied to form and concreted with substance.

No two persons in the world are just alike. No two persons that have ever lived were just alike. Even twins, conceived and nurtured under the same conditions are never quite alike, notwithstanding the similarity of their nurture, for the reason that each individual germ is the repository and outcome of many diverse ancestral influences. Not only are there no two persons *just alike*, but no person exhibits precisely the same form and size of the duplex features, viz., the eyes, cheeks, ears, and hands; neither can be found one whose nostrils, eyes, and eyebrows are *precisely* alike and the two sides of the body exactly similar. Indeed, the two sides of the face and the two ears in most persons might well be thought to have belonged to two different individuals, so entirely different are they in size, shape, and expression. Anthropologists have often declared that the right side represents the father and his family, and the left side the mother and her race. My own observations in the majority of cases corroborate this statement. If this be a law of Nature, how can we expect that the two sides of any being should be precisely similar?

DIFFERENCES IN THE FORM OF THE INTERNAL ORGANS.

It is taken for granted that every human being possesses exactly the same number of facial muscles, and it is vaguely understood that the internal organs, viz., the heart, the liver, the lungs, etc., are similar in all individuals. Neither of these assumptions are correct. The internal organs are as diverse in form, size, and color as are the external form, size, and color of individuals. The facial muscles, too, have always been the subject of dispute among anatomists, for they have appeared so varied in shape and different in number as to puzzle the most observant. In some subjects portions of the *labial*, *buccal*, and other muscles are absent. How can it be otherwise when such divergent characteristics appear associated with such perfectly contrary forms of all the features? It is just the same with many bodily muscles, for the savage and undeveloped man could not produce the same apt and complex movements as the most highly talented artist or mechanic in civilization, for the reason that such beings do not possess a muscular system as finely organized nor as sensible and flexible as the latter class. Dr. Gray has told us that

> The muscles drop little fibres all along their course in the face.

Now, it is certain, from the absence of expressions of various kinds in meagre beings, that these "little fibres" are greatly lacking in some and very plentiful in others who are rich in facial expression. The faculty of Mirthfulness exhibits in its labial signs a most extraordinary diversity in different persons in civilization; still greater is the difference between the savage and the most perfected races. Let a comparison be made between one naturally grave and sedate and one extremely mirthful, and there will be found about the corners of the mouth a different muscular formation, which will confirm the foregoing statement. Comparison of the appearances of other portions of the muscles of the face in diverse characters will prove that as character develops it takes on an increase in *quantity* as well as in *quality* of muscular endowment. Compare, for example, the lower third of the nose of the most gifted artist with that of a most commonplace character, and the former will disclose a far larger development of muscle in that region than the latter. It is just the same with all characters. The *more faculties*, the more development of *appropriate tissues with which to exhibit them.*

Mind is a question of physiological and anatomical development. What the soul may be I know not; mind is *material* in its present phase of existence. If this be true, no one is to be censured for discovering and asserting it. If it be false, it can be readily disproved.

Sir Charles Bell gives us many correct ideas in regard to the subject of expression. This subject is so little understood that I have decided to give many of his thoughts to the reader. There is a great deal said in art circles about the "divine" expression in the human face. This is all very well, if we only knew how to distinguish the human from the divine. As yet there has appeared to universal humanity no countenances other than animal and human ones,—each, in its grade, noble or ignoble. The lion, mastiff, and horse represent the noblest animal faces. The most elevated human countenances are found accompanying such characters as have striven for the rights of man and for the elevation and happiness of the race in every age and nation, regardless of danger and with no desire for fame or popularity. Among the many of these I may mention the following:—

Martin Luther, George Washington, Thomas Jefferson, John Howard, Earl Shaftesbury, Lucretia B. Mott, Peter Cooper, Florence Nightingale, George Peabody, Emily C. Judson, Madame Roland, Elizabeth Cady Stanton, Clara Barton, John Bright, Garibaldi, Elizabeth Fry, Susan B. Anthony, William Lloyd Garrison, John Brown, and Charlotte Corday.

Besides these there is an innumerable host of lesser and more obscure characters, whose humble and secluded lives have yet been as heroic, self-sacrificing, noble, and magnanimous as the former.

Now, in all these lofty characters we shall find only *human* faces, devoid of all expression of meanness and vice. Yet popular opinion does not always accord to such faces the possession of noble or divine expression, because the masses do not know how to distinguish between noble and base expressions, nor the many grades and shades of each of these traits. A face which has in repose nothing remarkable in its expression to the ordinary observer may become, under the influence of sudden emotion, positively *illumined*; yet the scientific physiognomist would see the *capacity* for goodness or greatness in the features while in repose. It is such expressions that leads one to say of them that they are "divine"; yet this is one of those loose and vague statements which it is the office of physiognomy to dispel; for until human expressions of vice and virtue are comprehended it is impossible to ascribe to the human face any appearance of "divinity."

Of this idea Sir Charles Bell remarks thus:—

> Those who have professedly written on the antique say that to arrive at the perfection of the ancient statue the artist must avoid what is human and aim at the divine. But we speak of what stands *materially* before us, to be seen, touched, and measured. With what *divine* essence is the comparison to be made? When the artist models his clay he must have recourse to some abstract idea of perfection in his own mind; whence has he drawn his idea of perfection? This brings us to the right path in the inquiry. The idea of representing divinity is palpably absurd. We know nothing of form but from the *contemplation of man*. The only interpretation of divinity in the human figure, as represented by the ancient sculptor, is that the artists avoided individuality; that they studied to keep free of any resemblance to any individual; giving no indication of the spirit or of the sentiments or affections, conceiving that all these movements destroy the unity of the features and are foreign to beauty in the abstract.*

There is one gross error in the minds of the masses in regard to beauty of expression, and that is, that in order to have perfect beauty there must be present certain mathematical measurements. Nothing can be farther from the truth. Beauty of expression is not confined to such a rigorous standard. Nature herself gives the lie to this, and all of the best writers on art-beauty, etc., coincide upon the subject. Says Sir Charles Bell:—

> Every scheme by which it shall be proposed to elicit the reasons of our feelings of admiration, love, or disgust by measuring the comparative areas of the head and face will fail.†

This eloquent writer quotes Addison as saying that

> No woman can be handsome by the force of features alone any more than she can be witty only by the help of speech.

Hence, measured regularity of feature and harmonious proportion alone do not constitute all there is of beauty. If mobility of the facial muscles is wanting, or clearness and color of the eyes and complexion, true beauty is absent. In statues, I grant, there is beauty, but it is the beauty of *form alone*, true to *Nature*; hence, it possesses the same beauty that is seen in a grand marble temple or cathedral. It reflects the mentality of the artist. Beauty of form and outline are in the statue, but motion, color, and the play of the emotions upon the face and in the body are lacking. The body in motion as well as in repose displays great beauties of transitory form, and expresses by its movements a thousand characteristics. The Celtic races in conversation use not only the body to assist language, but they use all of the features of the face as well as the hands, arms, shoulders, and legs. Emerson says that the

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* Anatomy of Expression, Sir Charles Bell, M.D., p. 22.

† *Ibid.*, pp. 25, 29.

"Englishman speaks with all his body." Dr. Maudsley remarks that

> He is a poor medical psychologist who cannot see idiocy in the walk as well as in the talk of his patients.

There are three modes of approaching the analysis and description of the face. One is by following the course of the evolution of the facial features. This plan would begin with a description of the mouth, as this feature was the first evolved. The second method would be to commence with a description of the forehead and follow down the face to the chin. The third method is the one I have employed all through this work; this is by commencing with a description of the chin and thence working upward, believing this to be a method the most easily comprehended, and also because it follows very nearly the course of evolution in face-building, for the mouth was the first facial feature evolved, and the signs of character about the mouth and in its immediate neighborhood—upon the chin—are all *directly* related to the action of the digestive functions. This method then follows most closely the course of the evolution of the domestic faculties and functions, and consequently of their associated signs in the chin and mouth.

Previous to discussing the various facial features I shall call attention to the several elements of Form as illustrated in the face and body. The application of these elements is essential to a just knowledge of each feature, face, and body.

THE BASIC ELEMENTS OF FORM AS EXHIBITED IN THE FEATURES.

In giving a comprehensive *résumé* of the human face, as I do in this chapter, it is here opportune to recapitulate the basic principles of Form and show how and to which feature each *element* of Form applies.

The normal factors of Form, as described in Chapter III, Part I, are as follow: The point, the line, the sphere, the angle, the square, and the cube. All of these find representation in the human countenance, and are significant of much that is both simple and complex. Not only so, but each of these elements has an occult or hidden meaning which cannot be elaborated in this work, but may appear in some subsequent work devoted entirely to that phase of physiognomy.

Each *element* of Form has an *inherent* meaning which it carries with it, and wheresoever found it announces its meaning without a word of explanation, for straightness indicates truth, uprightness,—normalcy. Crookedness or imperfect curvation reveals *untruthfulness* or lack of normal capacity, and so of each distinct fundamental form; each one is self-explanatory.

The *straight form* or line, or horizontal and straight line, is the form appertaining to the mouth; that is to say, this is the *normal standard* for that feature. The *sphere* or circle belongs to the eyeball; the *acute angle*, to the commissure or corner of the eye. The *true curve*—a section of a circle—is the normal standard for the cheeks, the jaws, the chin, the outer edges of the red or upper margin of the lip, certain parts of the nose, the eyebrows or portions of them, the eyelashes, the head, and the forehead. Some foreheads are very much arched; others less so. The sphere is also well represented in the ear, as it abounds in curves, and some ears describe a semicircle in the upper part of the shell; also in certain barrel-shaped bodies.. The *square* is exhibited in the bones of the face as well as in the bones of the body, and in *certain noses* which form a perfect square or angle in the junction of the nostril with the cheek. The *cube* finds representation in the rectangular and solid form of highly developed moral and scientific faces and bodies.

The curious student of universal principles who desires to find a common basis for all created forms, and who dreams that somewhere in the universe all the elements of Form may be found epitomized, has not far to go to find the realization of his dreams. The *human face* combines and illustrates all of the prime elements of Form; not one is here wanting.

THE POINT.

The *point*, or "least element of Form," is represented by the "blind spot" of the eye, so-called. This is the place where the optic nerve pierces the anterior surface of the eyeball. This point also represents the unit,—the number *one*. It is also analogous to the nucleus or *germinating* spot of cellular tissue. This least element of Form finds its illustration in the feature through which the *forms of the world enter the mind*—the eye. The point is the representative of the starting-point of growth, and corresponds to the beginning of the germinating process in all animal things.

THE SPHERE.

The *sphere or globe* is the most primitive of forms, and is exhibited by the eyeball—the only perfect circle in the human organism. It is true that the primitive cells of vegetable and animal tissue are spherical, but they are not fixed, and yield to pressure, and assume irregular forms. The eyeball retains permanently its perfect globular form, hence is the best representative of the sphere in the human face.

The opening of the iris is always *round* in *man*, but in animals, whose range of vision requires to extend widely in a horizontal direction (as the herbivorous animals), it is in the form of an ellipse. In animals, on the other hand, that leap up and down in pursuit of their food, as the cat, and other carnivorous animals that seek their prey in the same manner, the pupil has the elliptical form, but with the long diameter vertical.*

It is thus shown that the true circle is exhibited only in the *human* eye.

THE CURVE.

The *curve* is a section of a circle, and finds its illustration many times repeated in the human face. It is calculated that there are "thirty-six curves in the face, and one hundred and forty-four altogether in the human organism."† The curve and sphere belong together as factors of form, and produce ease, motion, and variety of movement and expression.

THE LINE.

The *line* is conspicuously displayed in the physiognomy of man in the form of the normal-shaped mouth, and suggests, as its resultant signification, trueness, regularity, straightness, the basic element of *squareness*, hence the form best adapted to the expression of *truth* and *integrity*, or *wholeness*,—"the truth, the whole truth, and nothing but the truth." The *straight* line is the representation of moral principle, hence is the *only form* which would be in harmony with the expression of the truth through the use of language.

THE ANGLE.

The *angle* finds its highest representation in the angles of the eye and of the nose, where it joins the upper lip. The more acute the angle of the corners of the eye, the greater is the power for truth in *language*, as well as for fidelity in the monogamic relation, or *love* for *one* only, either in marriage or out of it. The obtuse angle exhibits much less capacity for fidelity in love and marriage where the eye presents an acute angle. This is in harmony with the basic principles of Form throughout Nature, and especially in the human physiognomy.

The eye is not only the sign for language, but it is also one of the prominent signs of Amativeness, or love of the opposite sex; hence, its highest manifestation *would call* for that form which Nature has assigned to integrity, fidelity, and truthfulness. And again, the angle is one of the elements of the cube, the "grand or completed form;" therefore, when we observe the acute angle in the corners of the eye, we shall surely find in its owner a certain degree of the truth-telling quality; also fidelity in dealing with the opposite sex.

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* Hooker's Human Physiology, p. 295.

† Book of Wisdom.

In painting portraits of the human countenance, artists draw several straight lines and angles, and from these they produce the curves of the features, an instance of *inversion* quite significant; for, whereas Nature builds the human face by *curvilinear* processes, as is observed in the primitive cell of animal tissue, the artist works out upon his canvas the human physiognomy by first drawing straight lines and angles, and from these he constructs the "thirty-six curves" essential to the expression of a highly-developed Caucasian face,—a fine exemplification of the necessity of the *scientific element* of Form with which to produce a pictured representation of Nature's grandest achievement in architecture—the human face.

THE CUBE.

This form is best exemplified in the solid thorax of such bodies as that of Washington, Martin Luther, Napoleon, and other cubical-shaped bodies. This form of this part denotes powerful and perfect action of the inclosed viscera, and this combination gives force and vigor to the body and brain, and results in the grandest achievements of humanity, whether they be exhibited in great physical feats and labors, or by great moral, mental, or executive power, as in the case of Washington, Luther, and Napoleon.

It is thus that the cubical form stands representative of wholeness, soundness, or integrity of the thoracic structure. Those features and outlines of the face which present a tendency to cubic form belong to the most solid-minded characters, and herein is another application of this form.

The Signs in the Chin.

For convenience in localizing the signs that are in the chin, I divide it into three parts, by drawing two horizontal lines across it (Fig. 131, page 770); the lowest, just above the oval, or point of the chin; the second, just below the arching of the lower lip; while the line of closure of the mouth creates the third line, and thus assists the student in finding the signs of character in the chin.

In commencing a description of the features of the face I shall first describe the chin as being the base or lowest part of the countenance. The chin is a comparatively recent feature in evolution. No animal has a chin proper, neither do undeveloped races possess a perfect chin. Many idiots possess only a rudiment of this feature. Infants exhibit very little indication of a chin, but it develops with advancing age, as the osseous system becomes perfected. The progressive evolution of this feature from infancy to adult life assures us that its *perfect development* is one indication of a more perfected character than where it retains its infantile form and size, or where it is never greatly developed in the adult.

The size and form of this feature depend mainly upon the development of the bony system, for the inferior maxillary or lower jaw is composed mainly of bone; the teeth and the enamel of the teeth are composed of the hardest substance in the human frame; hence, the chin is one of the most *substantial* parts of the face, when it is normal. If this characteristic be lacking, and the chin small and inferior in size, it follows that something *positive* is wanting, and the character comparatively negative; or if, on the other hand, the chin exhibits more muscle and fat than bone, we must infer that the disposition is more yielding, less severe, positive, and persevering than where the bones are long and wide, for the *nature* of these several tissues is very dissimilar, and whichever is supreme in the structure of the chin decides the character of the individual for firmness or for lack of it.

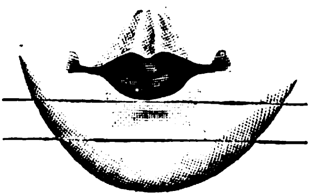

FIG. 181.

The reader has previously learned that the length downward and forward of the chin is the sign for Firmness; the *width* of its *bony* structure the sign of Conscientiousness; hence, the importance of a normal supply of bone in the chin.

The framework of the chin is composed of bone, and a well-developed chin should exhibit a fair share of this material. The three systems—the bony, the muscular, and the vegetative—assist in forming this feature. Where the osseous material is dominant, the greatest amount of positiveness or firmness is present. Where the muscular system is supreme in its structure, the art side of character is indicated. Where adipose tissue is pre-eminent, the character lacks firmness, and is given to ease, sociality or gluttony. These latter characteristics appertain only when fat is *dominant*. Many chins exhibit a so-called "double chin," yet possess a long and wide bony formation. Such chins must be credited with the firmness due to the bone present, and the sociality due to the fatty deposition must be *added* to the character in summing it up.

THE THREE GENERAL FORMS OF THE CHIN.

There are three general forms or outlines of the chin. All others are composites, blends, or modifications of these three primal forms. As before stated, every chin is composed mainly of one or the other of the three most important or primitive tissues, and in their structure they assume the form of one of the three fundamental shapes. The fatty chin is globose, the muscular chin is curved, and the bony chin is square. Each of these forms represents specifically the character which Nature has designated as its peculiar attribute.

The soft, *globose* chin of infancy and of undeveloped man is small, round, apparently all fat, and receding. When observed in the adult it denotes either a somewhat soft, yielding nature, an infantile or inferior intellect, excessive Alimentiveness, or too great a degree of sociality or gluttony, any one of which is a defect. It is a law of physiognomy that when a feature exhibits in the adult an infantile form, size, and condition, the character also retains something *relatively* weak, infantile, or negative.

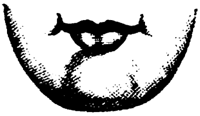
FIG. 132.—The Globose.

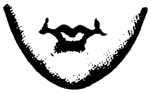
FIG. 133.—The Oval.

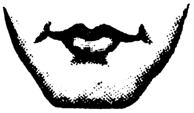
FIG. 134.—The Square.

The *oval* or *muscular* chin is caused by the supremacy of muscle, which always produces curved outlines and movements. This chin denotes a taste or talent for some form of art. Other facial signs in combinatin with it will indicate which department of art and what quality is present. I use the term "art" here comprehensively, including poetry, painting, acting, dancing, singing, and athletics, executively or appreciatively.

The *square* or bony chin announces positive characteristics, together with conscientiousness, order, precision, mechanical and scientific tastes, and moral courage. If of proportionate length also, it denotes constitutional vigor. The several forms of the chin show various degrees of functional power and weakness. These will be explained as we proceed.

The most general modifications of these three forms of the chin are as follow: The globose chin of infancy develops more bone as age advances, and thus takes on a more fixed and exact outline. Of course this outline accords with the general structure of the individual. If very muscular, an oval form will result;

if the bones of the body are fairly developed and square, a like form will appear in his chin.

The oval chin is modified almost indefinitely, and produces in different individuals diverse shapes. If the muscles are round, the chin will curve forward and produce an oval or round appearance of the *levator menti* muscle. (This is the muscle which assists in forming the end or prominence of the chin.) A curved outline of the lower jaw will be also exhibited, and this form of the jaw not only announces constitutional vigor, but also creative ability and dramatic tastes or capacities. The basic element of the sphere always represents by its curving form the presence of the *creative principle.*

Where constitutional vigor is wanting the chin is either sharp and very pointed or narrow and receding. The chins of congenital consumptives and dyspeptics are often narrow and sharp, together with narrow and perpendicular jaws without any outward curvation.

The straight muscle causes less curvation outwardly than the round muscle. So numerous are these modifications in form, caused by numberless combinations of the several sorts of bones and muscles, that I should only perplex the reader were I to attempt to define many of them; hence, I shall treat of only the most usual and general.

The square chin is modified so as to produce the broad and square and the narrow and square outlines; also a degree of squareness which is but slightly perceptible. The broad and square announces great constitutional vigor, together with thoroughness, moral principle, and reliability. This form denotes fidelity, hence those who possess this form of chin will be faithful in love, as in other matters. (These qualities are modified by very light eyes.)

The narrow and square chin denotes less constitutional vigor and relatively less moral courage. Where the square form is very slightly defined, the love of art and mechanism is about equally balanced, and courage is derived from the bony system as well as from the muscles. The moral and affectional nature will with this form be about equal.

There are two sorts of the *pointed* chin. One is a modification of the bony chin; the other a modification of the muscular chin. The pointed chin which projects forward is derived from the supremacy of the long, flat muscles. The narrow, pointed chin which points downward is derived from the dominance of the long bones, and announces weakness of the kidney system and narrowness of the pelvis.

THE THREE POSITIONS OF THE CHIN.

There are *three positions* of the chin which also expound character, viz., the perpendicular, the receding, and the projecting. The chin is perpendicular when it touches a line dropped perpendicularly down from the eyebrows and upper lip. This perpendicularity is the normal type. All others are deviations from this form. If they recede greatly, they denote one form of weakness; if they project *greatly* they announce another sort of deficiency. The receding chin lacks firmness and perseverance; while the chin greatly projecting is persevering in one direction mainly, and that is in saving. Where this projection is much exaggerated an avaricious disposition is present. This phase is a *perversion of the true economical faculty*, and all exaggerated forms accompany and disclose excessive deficiencies. Now, any face which exhibits a projecting and pointed chin announces that its possessor is wanting either in good, square honesty or in mental power, for which the desire to save is in some sort a compensation; that is to say, it enables such defective beings to exist and maintain themselves. I have known many excellent persons to have the saving faculty well defined in the face and character; this is normal; but when it approaches the degree indicated by the chin which is greatly projecting, we shall find a large degree of avarice and a lack of sound judgment. Avarice is an exaggerated form of Acquisitiveness, and is derived from the muscular system. Penuriousness, as well as avarice, *sharpens* the features. It is a species of *littleness*, caused by weakness, both of faculty and function, hence exhibits itself by *narrowness* of formation.

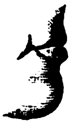
FIG. 135.—The Perpendicular.

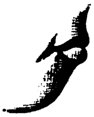
FIG. 136.—The Receding.

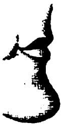
FIG. 137.—The Projecting.

I have observed the saving faculty very large in some individuals who were uncommonly *slow*, and the saving faculty was in their case the compensation for their lack of quickness. In some, excessive saving proceeds from a lack of commercial power; in others it arises from want of practicality, and in others deficient mental ability. The physiological law that all excessive development of one part is the sign of a deficiency of some other faculty or function is well illustrated in the peculiarities of the structure of the chin. No really grand intellect was ever known to possess this shape of the chin and its accompanying characteristic, avarice. The great Sir Francis Bacon was dubbed the "wisest, brightest, meanest of mankind," on account of his love of gold, which he acquired in a dishonorable manner. His physiognomy, however, does not show an avaricious chin, but his dishonesty is disclosed by a *crooked nose*, curved like that of the beak of the bird of prey. This form shows intellectual capacity for gaining pelf, while the avaricious chin shows the propensity to *hoard up* what is gained, regardless of whether it is little or much that is acquired.

In denominating the perpendicular the *normal* type of chin I must explain somewhat my position on this subject. The perpendicular chin in its highest manifestation is found where the osseous system is dominant, and, as the osseous system is a later and more developed system than the muscular or vegetative systems, it is hence *higher* in rank. The muscular chin is often observed to be perpendicular in many gifted artists. It is often found in others to be receding slightly, and with these two classes it is often dimpled or cleft, and this denotes sensuous tastes, which are also art tastes.

We have found, then, that the perpendicular chin is observed in the best class of osseous individuals, as well as in the best or most perfected characters among artistic characters (and I here use this term "art" in its most comprehensive sense). We hence deduce that this form stands representative of development, and so the student of physiognomy will ever find it in Nature. And this evidence finishes the argument, for Nature is infallible,—the court of last resort, from which there is *no appeal.*

In my analysis of the several forms of the chin I give the law which expounds them and the natural or scientific base from which they derive their form and accompanying character. In order that my observations shall not be taken unsupported, I shall quote from that prince of observers, Lavater, who, however, gives no laws or basic principles by which to examine and prove his assertions. He observes:—

> Long experience has proved to me that a projecting chin always announces something *positive*, whereas the meaning of a retreating chin is always negative. The character of an individual as regards energy or weakness often manifests itself solely by the chin. A pointed chin ordinarily passes for a sign of cunning. I have, however, observed this shape in the most honorable persons, with whom cunning was a refined kind of good-nature.
>
> A soft, fleshy, and double chin is generally the sign and effect of sensuality; angular chins are only seen in sensible, firm, and benevolent persons; small ones are characteristic of timidity; round ones, with a dimple, may be regarded as a token of kindness or good-nature.

> I establish three general classes for different shapes of chin. In the first I rank retreating chins; in the second, those which in profile are perpendicular to the lower lip; in the third, those which project beyond the lower lip. The retreating, which may be boldly called the female chin, since it is to be found in almost all women, makes me always suspect some weak side. Chins of the second class—the perpendicular—inspire me with confidence; those of the third are to me the proof of an active and shrewd mind, provided they do not take the shape of a "handle," *i.e.*, a nut-cracker shape, for this exaggerated form generally leads to pusillanimity and avarice.[*]

The following general rule, which Lavater applies to all the facial features, applies with equal force to the chin. He remarks:—

> When the lineaments of the countenance are flat, without gradation, without character, without flexion or undulation, they denote dullness or stupidity.[†]

FORMS OF THE CENTRE OF THE CHIN.

There are three forms of the middle portion of the chin (that is, the part between the lower lip and the lowest part or oval of this feature) which denote diversity of character, and are highly important in the interpretation thereof. These three forms are the flat, or stupid (Fig. 138), the convex, or brutal and undeveloped (Fig. 139), and the indented, or highest type (Fig. 140). Of the latter Lavater remarks:—

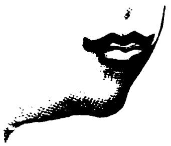

FIG. 138.—Flat, or Stupid. (A SIMPLETON.)

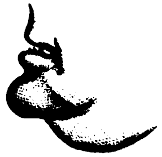

FIG. 139.—Convex, or Brutal. (A MALEFACTOR.)

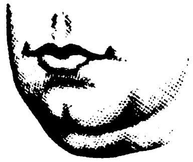

FIG. 140.—Indented. (EDWARD EVERETT.)

> A deep indentation in the middle of the chin seems to indicate without fail a judicious, steady, and resolute man, unless this feature is belied by other contradictory features.[‡]

I do not think that any feature can wholly neutralize the effect of a good chin. It may modify somewhat its indications. Lavater himself must have thought this, for elsewhere he observes:—

> When the chin decisively indicates good sense the whole will certainly have the character of discernment and understanding. That chin decisively indicates good sense which is somewhat incurved or indented in the middle, of which the under part somewhat projects, which is marked with various gradations, incurvations, and lines, and below sinks in somewhat in the middle. A long, broad, thick chin—I speak of the bony chin—is found only in rude, harsh, proud, and violent persons.[§]

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[*] Lavater's Essays, p. 186.

[†] *Ibid.*, p. 463.

[‡] *Ibid.*, p. 186.

[§] *Ibid.*, p. 477.

Again Lavater remarks:—

> The more chin, the more man.

Lavater lacked scientific training, hence his classification of forms wants order and his descriptions are lacking in minute details, and although his works are profusely illustrated they do not exhibit that accuracy of classification which ought to characterize scientific physiognomy; hence, these latter statements are loose and vague to the general reader. He probably did not intend to convey the meaning that a bony chin was rude and harsh because it was bony, but because it was long, wide, and badly shaped. The former statement would contradict the following assertion of his, viz., "the more chin, the more man." The converse of this would be true,—the less chin, the less of the firm, conscientious, and courageous, hence a negative, weak, unmanly character. All forms are *relative*, and close comparison as well as accurate observation are required to decipher small and minute differences in the forms of the several parts of each feature.

The several modifications of the three basilar or ruling forms, viz., the spherical, oval, and square, create a great variety of character—of that part of the character of which the chin stands representative, viz., the moral and domestic. Every departure from the strict regularity of the standard of normal types announces deviations which bring with them their own explanations if the basic laws of Form are applied to them.

When the countenance below the mid-line of the mouth is disproportionately long and wide, the character is correspondingly commonplace and gluttonous. A medium or proportionate length downward from the mouth denotes a better-balanced character than the former. A chin relatively short from the mouth downward discloses timidity and also a lack of vocal volume. All those gifted with powerful voices exhibit chins not only long downward, but they are accompanied with full cheeks. This peculiarity of form is demanded in order to produce powerful tones, which cannot be emitted by those who have very short chins, or who are disproportionately short from the junction of the lower part of the nose with the upper lip down to the point of the chin. All good singers disclose average or large vegetative systems, and this system tends to lengthen and widen the chin; it also gives softness to the tones and a sympathetic expression. The latter is derived from the strength of the glandular system,—an important part of the vegetative system.

THE THREE GENERAL CLASSES OF CONSTITUENTS IN THE CHIN.

The three general classes of character, the domestic, the artistic, and the mechanical, may be known in the chin by the dominance of one or the other of the three following-named tissues, viz., fat, muscle, and bone. Fat represents domestic character; in excess, gluttonous habits. Muscle denotes emotion and artistic tastes; and bone mechanical and scientific tastes.

The *outline-form* of the chin announces the character as well as the quality of the material of which it is composed, while its relative proportions give us yet another opportunity to decide upon a verdict.

DIMPLED CHINS.

A round dimple in the chin (Fig. 141) denotes art-loving tastes, for the reason that a round dimple is caused by a combination of the round muscle with the round bone, and this combination is the one best adapted to assist every species of art-work, except sculpture. The latter requires square bones and round muscles for its best illustration.

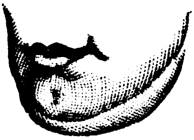
FIG. 141.

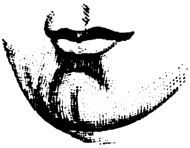
FIG. 142.

A straight-cleft dimple (Fig. 142) is found where the round muscle and square bones are combined. It denotes a love for art and beauty, the same as the round dimple. By observation of this one little peculiarity we get a clue to one of the dominating systems of the body, and this opens to our comprehension the greater part of the character. Nearly all of our great poets, painters, actors, many writers of fiction, as well as athletes, exhibit a dimpled chin—either a round or a cleft dimple. In all these classes the perception of beauty, and particularly the beauty of the opposite sex, is very marked. It is, in fact, a *part of their talent.* It is something *more than a mere personal taste ;* it is essential to the successful working out of their ideas in acting, in painting, in all works of imagination based upon ideals formed in the mind and portrayed by voice, gesture, and position, as in singing, painting, acting, playing, and composing. Many singers exhibit the dimpled chin as well as many composers. Among the latter classes examine, for example, the chin of Liszt, Beethoven, Mozart, Handel, Schubert, Schumann, Arthur Sullivan, and many others. Among singers it is almost universally present. Observe the portraits of Miss Thursby, Madame Materna, Emma Abbott, Signor Ravelli, Mr. Santly, Campanini, and others. Of poets who possess this "beauty spot" their name is legion. Examine the portraits of Southey, Byron, Burns, Goethe, Corneille, Dryden, Pope, Keats, Goldsmith, Herrick, Moore, Marvel, and others too numerous to mention. The majority of painters, writers of fiction, orators, architects, actors, and athletes, without number, exhibit a dimpled chin and thus announce that the muscular is one of the dominant systems. A great majority of actors and actresses not only reveal a dimpled chin but dimpled cheeks, hands, arms, and shoulders. An inspection of the following-named persons proves that love of art, agreeability, and benevolence are associated with dimples and talent. See, for example, the *personnel* of Lotta, Lawrence Barrett, Joseph Jefferson, William Warren, Modjeska, Mdlle. Croizette, Mdlle. Barretta, Mdlle. Richemberg, Molière, and Irving. There are many other actors thus characterized which the reader may prove by collecting a number of their portraits. Examine among painters the physiognomy of David Rembrandt, Lorraine, Murrillo, Vandyck, and Doré. Orators are almost universally endowed with a dimpled chin. See the faces of Clay, Bossuet, Charles James Fox, Erskine, Burke, John Adams, Wendell Phillips, Beecher, Ingersoll, and Richard Brindley Sheridan. Observe the portraits of the following writers of essays, fiction, the drama, etc.: La Bruyèrè, Addison, Sir Walter Scott, Madame de Staël, David Hume, Gibbon, Des Cartes, De Foe, Swift, Voltaire, Macaulay, Linnæus, Benjamin Franklin, Halley, Bunyan, T. B. Aldrich, Howells, Thoreau, Draper, Geoffrey, Saint-Hilaire, and Washington Irving.

In all faces in which the muscular or artistic chin is observed, when not dimpled, it will be found to possess a rounded shape, soft and mobile. This chin is to be classed with the dimpled chins. It does not follow that because the chin is dimpled that artistic *talent* is present. This depends upon the form and quality of brain in combination. Many persons exhibit only a *taste* for art and beauty; others possess varying degrees of talent of various sorts. A taste and love of an art is often possessed by one who has very little *executive* talent for that art. Such a one may make a good critic if experienced in the observation of artistic works.

FORMS OF THE CHIN.

The physiological and anatomical knowledge of the body, to be derived from observation of the several forms of the chin, is most useful. Taken in connection with the form of the lower jaw (of which it is really a part), we may extend our knowledge of the size and activity of several organ systems within the body. The broad and square chin (Fig. 143) denotes a strong and active kidney system, unless the eyes are very light-colored; in this case the system is not as vigorous as where the eyes have a normal supply of color. A broad, bony chin shows constitutional vigor and assurance of longevity. A narrow and receding chin (Fig. 144) announces relative weakness of the kidney system. A very sharp, pointed chin, with long, narrow lower jaw (and these two forms are usually found associated) always denotes feeble digestion, together with general constitutional weakness. I have never observed a very aged person with this formation. Those who exhibit this peculiarity of form usually die young, either of diseases of the intestinal system or of consumption. (See Fig. 145.)

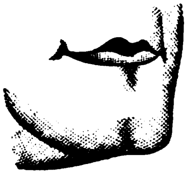

FIG. 143.

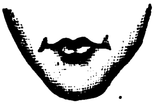

FIG. 144.

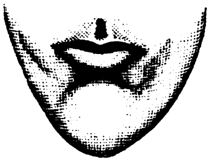

FIG. 145.

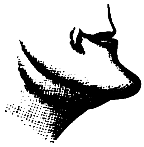

FIG. 146.

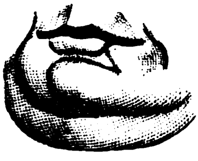

FIG. 147.

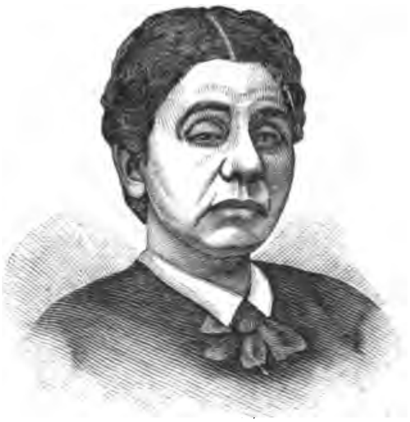

FIG. 148.—A CONVICTED THIEF.

Another peculiar form of chin rarely seen is the long, peaked, and upturned chin, which Lavater names the "Menton de galoche" (Fig. 146), which he claims is the sign of a rickety predisposition, and he also adds that it is an infallible sign of a "faulty conformation of the pelvis, which is dangerous to woman in child-birth."*

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* Lavater's Essays, p. 186.

This last assertion is doubtless true, for abnormal narrowness of the lower part of the face indicates feebleness or defective organization of the functions related to the vegetative system; hence narrowness of the bony structure of this portion of the face indicates much less vigor of *all* these functions, inasmuch as they are mutually dependent on each other and their relations to each other very intimate and complex.

A chin composed mainly of fatty tissue (Fig. 147) not only denotes silliness, feebleness of intellect, or idiocy, but also indicates dropsical tendencies, gout, tumorous growths, and various chronic disorders.

Irregular-shaped chins (Fig. 148, page 779) are composed mainly of muscles with slight depressions all over, as if intending to dimple, announces a nature inclined to crooked and devious methods. I have seen such chins in the physiognomies of first-class burglars, who had also other irregular-shaped features, viz., crooked eyes and mouth, and also in those of relatively feeble honesty.

THE "FEMININE CHIN."

Many writers upon physiognomy denominate the small, receding chin the "feminine chin." I do not assent to this misnomer and false classification. Were it not for the beard with which Nature has supplied men they would stand convicted of possessing as small chins as women, numerically speaking. There are as many weak-principled and childish men as there are immoral and petty women. Were it not that kind Nature prepares a sort of "masked battery" for men's chins which enables them to hide from women their moral and domestic deficiencies by means of a heavy beard very many weak, "womanly" chins would be revealed in all their littleness. I never make a delineation of an individual whose face exhibits a beard and moustache without taking pains to discover the exact size and form of both the chin, jaws, and upper lip. Women, it is true, exhibit more affection and emotion than men, but the very strength of their affections often impels wives and mothers to heroic deeds in the defense of their loved ones. In all ages of the world women have appeared who, without parting with their love and femininity, have played the part of heroines in times of war and desolation. Some have led in battle, like Joan of Arc; some ascended the scaffold, like Madame Roland; others have defended their hearths and homes; others still have commanded ships when their husbands have become disabled; again, many have served as nurses and soldiers upon the field of battle. Yet I doubt if one such possessed either a weak chin or lacked true femininity. No, reader! Heroism, like intellect, has no sex. Believe not the fallacies and fictions of so-called physiognomists, who would ascribe to man *all* the stronger and nobler traits, because his head is big and his brawn great; and to woman all the weaknesses of human nature, because she is smaller and *finer* in every way. The Greeks did not so erroneously judge of human nature; they personified *all the stronger traits*, such as wisdom and justice, in the figures of their *Goddesses*,—a subtle way of showing that these personifications are creative states of mind, and that they understood the female to be the best representative of the human creative power, in being the creator of the race through maternity. Artists ranked, in their minds, as something less than woman; mere material creation seemed to them much lower than woman's transcendent power as the *creator of* artists—of man.

FORMS OF THE JAW.

THE UPPER JAW.

The upper jaw is a negative feature, being necessarily passive in its fixed position.

THE LOWER JAW.

The lower jaw is an active agent, powerful to a degree, positive and decided in movement, and one of the chief agents in articulation and mastication.

The lower jaw, strictly speaking, is one continuous bone termed the "vomer," or ploughshare, which it resembles in shape. (See Fig. 127.) "It is divided into the body or chin, the sides, the rami, and the processes." The chin is termed the "mental process." So intimately associated are the several parts of this feature that it is impossible to adequately describe the chin without at the same time describing the form and meanings of the sides, angles, and rami of the jaw.

The several forms of the lower jaw are highly indicative of character, and to them we must bring to bear acute observation and analysis if we would master their full significance. The figures at the head of this chapter will give the reader the names and positions of the bones and muscles of the face. Reference to them will greatly facilitate one's comprehension of the anatomy of the parts mentioned.

As the signs of the vegetative system are found mainly in the lower part of the face, by applying to this part the basic laws of Form we shall be able to interpret the character by the various signs found here. We have learned in these laws that the spherical form or any portion of a sphere, as, for example, the segment of a circle, is indicative of primitive growth and conditions; that, in short, the curving form announces *creative* tendencies, also more vigorous conditions than the perpendicular or straight form. If we apply this law to the formation of the lower jaw we shall find that it is an infallible expounder of existing conditions. In infancy, the lower jaw-bone presents a more obtuse angle than in the adult, but as the infant advances to adult age the angle becomes more acute, hence shows the presence of more bone, and the sides and rami combine in forming a more curved outline. The outline of the cheek is also modified from the *globose* appearance present in childhood. Globosity is *primal.* Curving is the next stage of formation. When we observe the youthful face as it approaches the age of puberty, we find that the infantile form of the cheeks, the nose, the chin, and the jaws are changed, and the globose cheeks of infancy have given way to a graceful curve of the cheek and lower jaw. The nose also has risen in the centre and attained a more dignified contour than that presented by the concavity of infancy. The convex or rounded outline of the forehead is changed to the perpendicular or slightly receding form. All this is due mainly to the development of *bone*, and with this process more *intelligence* and *stability* of character appears.

Width of the bony structure of the lower jaw is thus shown to be one of the facial signs, not only of vigorous, physical functions, but of more powerful mental faculties. *Breadth of jaws* is one of the signs of longevity, as well as of strong vegetative powers, for the breadth of the lower third of the face belongs to and indicates the condition of the visceral structure, and, as vigor of this part of the organism is essential to prolonged mental effort, we shall expect to find, in the faces of those whose mental efforts are the greatest and most prolonged, a normal width of the jaws, and especially a *nice* degree of curvation outwardly of the lower jaw-bone and muscles. It is true that many eminent writers have exhibited only a fair degree of outward curvation of this feature. An analysis of their works will establish the truth of the basic law of Form as applied to them. All writers on profound and recondite subjects exhibit relative width of the lower jaw; so, also, do all persons whose discoveries, researches, and inventions are on a large scale. While writers and theorizers on the lighter and less comprehensive subjects disclose a lower jaw relatively less wide, and the reason for this is very well explained by Dr. Cross, whose analysis of this feature I shall now offer. He observes:—

> Broad jaws, therefore receptive of much food, argue powerful functions, but as functions are not necessarily intellectual, and as the intellectual faculties are indicated by the brain, and the strength of the intellectual

faculties by the breadth of the brain, so the relative breadth of head and of jaws shall mark the natural channel for the flow of intellect. Accordingly, where the jaws are *broader* than the head, there the channel for the flow of intellect is wide, but the fountain is scanty. This relative conformation of head and jaws is the characteristic of strong passions and weak intellect. Accordingly, also, where the jaws maintain nearly the same breadth as the brain, there the fountain keeps the channel full. This relative conformation of head and jaws bespeaks a character who can exert all his intellectual powers on a subject,—who is calculated for scientific pursuits. Accordingly, also, where the jaws are much narrower than the head, there the channel is *too* narrow for carrying off the profuse supply of the fountain, so that the intellectual current passes down in an impetuous jet. Here the mind acts most forcibly and most keenly upon a small spot at a time. While the narrow head with broad jaws represents a large smoking fire; while the broad head with broad jaws represents a hot smelting-furnace; the broad head with narrow jaws represents the keen, sharp flame from a blowpipe.*

The latter contour of head and face is observed in the faces of witty, bright, smart people, quick at retort and repartee. Several of our prominent humorous writers disclose this form of countenance (Fig 149). Still more sharpened at the chin and the forehead, and the features not quite so wide as the former, we have the sly, crafty, foxy form of face, which shows inferiority of judgment and intellect generally. It is exhibited by a sly, insinuating manner, dealing in hints, allusions, suggestions, and innuendoes, which is a modified form of wit.

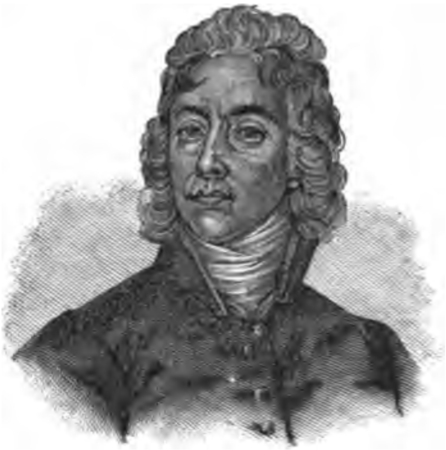

FIG. 149.—PRINCE TALLEYRAND.

In describing the several normal or most useful forms of the lower jaw, I shall follow the course of Nature in evolution, or the progressive development of this feature from the embryotic to the most perfected form.

EMBRYOTIC LOWER JAW.

The evolution of the lower jaw is a most interesting process, and the *form* of this feature which is gradually developed in the human embryo is most instructive. A human embryo at six weeks has not as much of a jaw as an ape or a marmoset. Below the mouth there is no trace of a face; from the lower lip there is a backward slope to the neck, or what will eventually be the neck. At the fifteenth week of prenatal life, about as much chin is exhibited as is found in the ape and chimpanzee, and it recedes at about the same angle. Were the chin to remain at this stage of development the character would possess no more stability, perseverance, and conscientiousness than an ape; but from this time onward until birth the bones of the lower jaw develop, and unless the child is idiotic the chin and lower jaw gradually assume a normal size and form. During early childhood the chin remains small and the lower jaw-bone narrow and receding. If these peculiarities continue until adult life, the character will be wanting in perseverance, stability, integrity, courage, and application. These latter qualities inhere in the bony structure and are exhibited by bone development, but, as it occurs that the softer tissues are dominant in early life, we shall observe that the chin is at first round, receding, and soft. The outline of the bone in plump infants is almost hidden by the globose form of the cheeks and by the *fat of the neck.* Later, the outline assumes an oval form, and still later the *permanent* form of the jaw appears, and it is this last form which reveals to us the character of the individual for firmness, perseverance, and integrity, or the lack of them. It is this form, also, which unfolds the strength or weakness of the visceral organs and the width of the pelvis. Narrowness of the bones at this portion of the face denotes relative weakness of several visceral organs, for Nature is harmonious and sets her signs and signals in the face in order that the related interior mechanism and external form of the body shall be understood.

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* An Attempt to Establish Physiognomy on Scientific Principles, John Cross, M.D., pp. 179, 180.

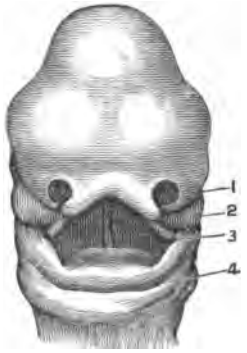

FIG. 150. — HUMAN EMBRYO. (After Haeckel.)

1, external nasal process; 2, upper jaw; 3, the tongue; 4, lower jaw.

THE INFANTILE JAW.

The form of the lower jaw peculiar to infancy, immaturity, and undevelopment is shown by narrowness of its bony frame and an obtuse angle or lack of curvation of the muscles of the sides and rami. This form denotes absence of force and perseverance, as well as immaturity, and if observed in an adult it betokens either idiocy or a very small degree of firmness and reliability.

THE DYSPEPTIC JAW.

This form of the lower jaw presents a perpendicular or almost perpendicular line from the malar or cheek-bone to the chin. In most congenital consumptives and dyspeptics this is quite marked, and is a sure indication of a short and sickly life. I have never observed this peculiar formation in the physiognomy of any very aged person. It is a transmitted form, and usually descends from parents who have a narrow and perpendicular formation of the lower jaw-bones. When transmitted from both parents, those who inherit this form and its associated weakness disclose their feebleness of the viscera and lungs very early, and usually die before reaching maturity, unless surrounded by the most favorable circumstances. Such persons lack vital energy, and if possessed of a good brain form will plan much more than they can execute, and will be constantly hindered in carrying forward their plans by constantly-recurring attacks of ill health. This class of people may exhibit common morality, but we cannot expect that they will display moral heroism, nor that they will be able to command a regiment, a war-ship, or quell a mob, no matter how fine or active the brain may be.

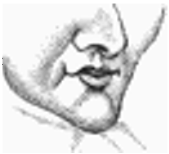
FIG. 151. — COUNTESS OF HUNTINGTON.

THE WEAK OR NEGATIVE JAW.

There are several distinct forms of the weak jaw, each of which disclose varying mental and physical defects. The most commonly observed are the perpendicular and narrow, which indicates feeble digestion, and the short and obtuse jaw, terminating in a receding chin. This is the characteristic chin of childhood. It denotes (when observed in the adult) lack of perseverance, of strong moral principles, firmness, and decision, as well as weakness

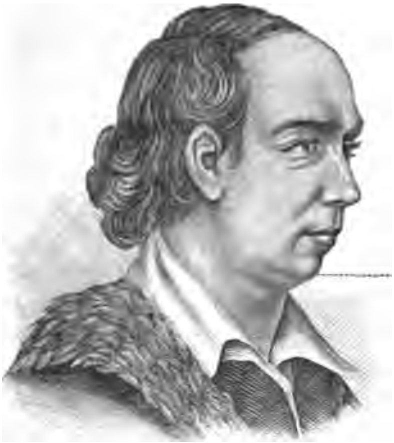
FIG. 152.—OLIVER GOLDSMITH.

of the kidney system and relative feebleness of the entire visceral structure.

THE CONSUMPTIVE JAW.

The form which discloses the tendency to this dread disease is marked by general narrowness of the face at the upper part of the cheek, flatness of the malar bones; narrow, sharp nose; thin nostrils, hollow cheeks, and usually a thin lower lip. (See Fig. 145, page 779.) This conformation of face and jaw is an inherited one, and has been transmitted from ancestors whose physique was very much impoverished. The entire formation denotes feebleness of both visceral and thoracic structures, hence it follows that the mental powers are correspondingly feeble. With a dominance of a brain form of a fine quality in combination, a considerable degree of mental brightness may be manifested in early life, but life itself will be short and painful.

Where the brain system is *not* one of the *dominant* systems a very ordinary grade of intellect will be present. The subject will scarcely reach the adult stage. The nearer the approach to embryotic forms, the greater is the weakness of the physical powers and a lack of positive force and substantial, reliable character, for where the bones of the jaw do not develop normally in size and form the characteristics of undevelopment are naturally associated. These characteristics are relative, of course. They do not imply that the character will be altogether childish, but that there will be relatively less of the substantial and firm quality exhibited which belong to a normal character, and which are always exhibited by a normal proportion of bone, muscle, and fatty tissue in these parts of the face.

CRAFTY AND WITTY JAW.

There are several grades and phases of intellect manifested by those with the sharpened chin and slightly perpendicular jaw. Those whose wit takes on a keen, cutting, satirical manner present a sharper aspect of jaw and chin than where the nature of the wit is more good-natured. Voltaire's face is an illustration of the former, while Sterne's countenance denotes the latter. Voltaire evinced also great powers of chicanery, subtlety, and craft in his management of his enemies and opposers. We may with truth denominate satire, sarcasm, and wit "intellectual cunning," while the common, low grade of cunning used by those who are deficient in mentality may properly be designated "animal cunning," inasmuch as it is the compensation for a lack of intellectual vigor, breadth, or acumen.

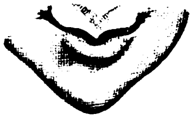
FIG. 153.
LAURENCE STERNE.

A man may possess considerable intellectual power of a crafty, astute nature. It does not follow that he is weak because of this species of cunning. Such an intellect was exhibited by Richelieu. He possessed an intellect of a high order, but all turned in the direction of governmental diplomacy, in which chicanery, intrigue, and craft, so much used in European politics in his day, were dominant. His was cunning on a *grand* scale. He showed talent for hiding his own designs while discovering those of others. The shape of his nose proves him to have been possessed of a comprehensive intellect, while the shape of his lower jaw and chin reveals his craft and adroit *finesse*, but not moral heroism.

An examination of the lower jaw and chin of the following-named persons will give a good idea of the witty jaw and the cunning jaw in their several phases and aspects: Mark Twain, Cardinal Fesch, Duke of Buckingham, and Voltaire.

The general conformation of the head and jaws which produces that peculiar sharpness of the chin and jaw which denotes wit is not one of the indications of weakness of the physical functions. It is the result of the dominance of the brain form with a subdominance of the muscular and bony system; hence, the jaws are relatively less developed and less square, and the chin less bony and prominent. It is this combination—viz., brain first, muscle second, bone third—which creates those imaginative, witty, playful tendencies that are found in many first-class writers whose works abound in wit, sarcasm, and playful, sportive, mirthful, and ingenious fancies. The witty jaw and chin (for we are obliged to combine these two features in order to illustrate this peculiarity) proceeds from the relative breadth of the forehead and the tapering of the face downward. Now, where the forehead is relatively narrow, combined with narrow jaws and a sharp chin, then the former shape of the face is modified to that degree which denotes less intellect and more cunning, for cunning is wit diluted, so to speak. The physiognomy of the fox is a good illustration of the cunning jaw which indicates animal wit, while the faces of Voltaire and Sterne are the best examples of sharp, keen wit and intellectual cunning. The remarks on this peculiar form of jaw and chin by Dr. Cross are quite appropriate, and I quote them in this connection. He observes:—

> The tapering of the head and face from above to below indicates natural cunning,—natural only, for the broad face may be trained into artificial cunning and the sharp, tapering face into artificial sincerity, *not, however, without leaving corresponding impressions on the soft parts.*
>
> In examining the anterior plane of the face we found that recession from the perpendicular indicated deficiency of animal character. On now examining the lateral plane of the face, we find that recession from the

perpendicular also indicates deficiency of animal character.* Cunning is at once an indication, a consequence, and a partial cure of some primary deficiency. If an animal were sufficiently wise to keep clear of all difficulties, and courageous enough and strong enough to stand his own ground, he would not have stood in need of cunning. A face, therefore, tapering into narrow jaws denotes a character whose basis of animal appetites and passions is feeble; but this tapering face, while indicating such radical deficiency, also indicates how the character is compensated by cunning—by stratagem. A bestial face, tapering from above downward, indicates sheer cunning, whose object is self-preservation, whether in acquisition of prey or in elusion of danger. Human cunning may be said to run ultimately into the channel of self-preservation, but has so many meanderings through all its windings and turnings of social life, and through the extensive and complicated field of human intellect, as scarcely to join the great animal stream before it disembouges itself. The cunning of the fox is directly and exclusively devoted to stealing prey and eluding detection, but human society is so organized that the Sternes and Voltaires are necessitated to discharge their cunning in wit. A human head and face tapering from above downward bespeaks wit, keen in proportion to the sharpness of the jaws.†

THE CURVED OR ARTISTIC JAW.

This form of jaw, when terminating (as it generally does) in an oval chin, is significant of normal strength and a taste for art and beauty. The curving is caused by the dominance of the muscular system, hence a love or taste for art and beauty will be present; also, agreeability of disposition, unless contradicted by some other sign.

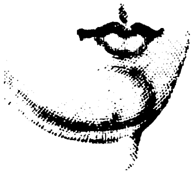
FIG. 154.
CLAUDE LORRAINE.

The oval form of the muscles shows that movement is easy, and ease of movement denotes a certain degree of agreeability. When the curved jaw terminates in a rounded chin, in which there is a round dimple, we can safely predicate that talent or taste for art of some sort will be manifested, and a sort of good-natured benevolence or generous disposition as well.

THE DRAMATIC JAW.

The most perfect or normal form of the adult lower jaw presents a curved outline. When it is *greatly curved* we shall find that it signifies *creative power* of a dramatic nature, and this form of jaw is observed in the physiognomies of many who are eminent in various phases of *creative art*.

As we have found that globosity denotes immaturity and perpendicularity, when not in its normal place, weakness and defective organization, so we shall find, while observing the forms of the

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* The writer here uses the term "animal" to indicate both the vegetative and animal functions.

† An Attempt to Establish Physiognomy on Scientific Principles, J. Cross, M.D., pp. 180-182.

rounded lower jaw, that it expresses what the segment of a circle always signifies when found in living organisms, viz., creative or original powers. The primitive animal or vegetable cells are circuloid; their mission is creative of new tissue, and the circular form is the only one adapted to that formative process. When we observe this circular or semicircular form in any feature we may know that creative effort of some sort is indicated. The *sort* of power which is present is shown by the particular feature in which the curving is exhibited.

The lower jaw of a majority of the most celebrated dramatic painters, poets, writers of fiction, actors, singers, playwrights, etc., exhibit this form. The reader is referred to the faces of the following for examples of this law and its associated form. I denominate as dramatic artists all those whose works express or exhibit the main elements of the drama, viz., tragedy, comedy, or farce. Now, in the works of the following-named artists will be found highly-dramatic elements embodied or expressed. The shape of the chin and lower jaw will reveal their power in this direction.

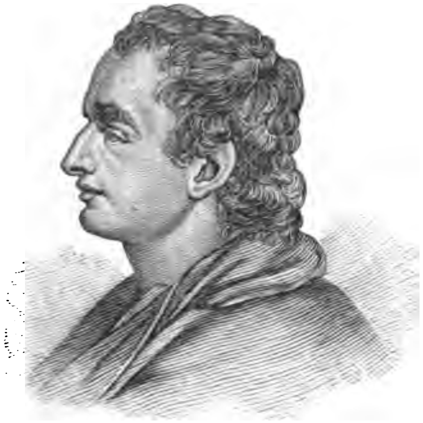

FIG. 155.—BENJAMIN R. HAYDON.
(HISTORICAL PAINTER.)

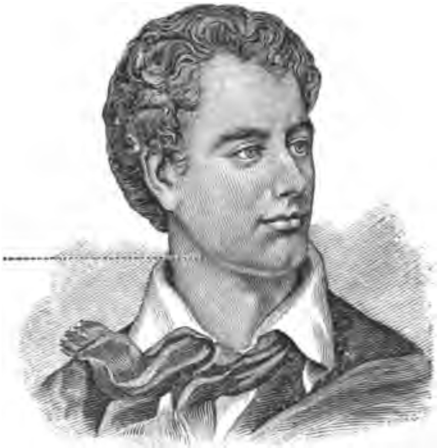

FIG. 156.—LORD BYRON.
(DRAMATIC POET.)

See, for example, among orators, Mirabeau, Henry Ward Beecher, Ingersoll, Henry Clay.

Among poets, Corneille, Miss Barbauld, Byron, Mark Akenside, Keats, Schiller, James Hogg, Alfieri, Abelard, Klopstock, Ovid, Petrarch, Goldsmith, Herrick, Horace, and Elizabeth, Queen of Roumania ("Carmen Sylva").

Among painters, B. R. Haydon, greatest of English historical painters; Doré, Holbein, Van Dyck, Vernet, Turner, Powell; Elizabeth Ney, German sculptress, and Canova, sculptor.

Among actors, actresses, and opera-singers, observe the following: Sarah Siddons, Philip John Kemble, Charlotte Cushman, Talma, Molière, Forrest, David Garrick, Nat. Goodwin, and Lotta.

Of writers whose lower jaw is dramatic, and whose works are dramatic, I name the following: Miss Louise Alcott, Dickens, Lucy Larcom, Mrs. A. D. T. Whitney, J. Fenimore Cooper, T. B. Aldrich, W. D. Howells, Joseph C. Neal, La Bruyere, Mad. de Staël.

There are many others in each of these classes, but a sufficient number are here mentioned to give the reader an opportunity to make generalizations and comparisons.

Many persons in private life also exhibit this form of jaw and chin, but wherever observed a love, taste, or talent for dramatic works of some sort will be found associated with this peculiarity.

THE SQUARE JAW—MORAL, MECHANICAL, SCIENTIFIC.

The square-shaped jaw has many significations, for its form denotes a high grade of development in a moral, mechanical, or scientific direction. This form must not be confounded with the *angular* jaw, which indicates quite different traits. The squaring of the square jaw is observed to be situated upon the sides of the jaw, and when combined with a certain degree of *width* of the chin always denotes a high degree of conscientiousness and moral power, with either mechanical or scientific tendencies. These two classes of traits are in close relationship, inasmuch as they are both based upon the laws of Nature and are closely related. Signs in other parts of the face will point out to which of these two departments of mentality the mind belongs.

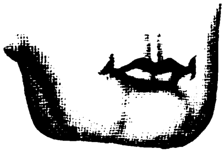

FIG. 157.
SIR ISAAC NEWTON.

The lower jaws of Jonathan Trumbull and Roger Sherman, heroes of '76, show the square form, and their conduct was heroic in the "times that tried men's souls." The signs for Conscientiousness, Firmness, Perseverance, and Moral Courage are strongly defined in their chins. All these traits inhere in the osseous system, and their signs are in the bony structure of the lower jaw and chin.

Squareness of the chin or lower jaw denotes fidelity to whatever one is most interested in, hence an individual with a square jaw will be faithful in love, as well as prompt and steadfast in business relations. The signs for principle and morality are found in the *bones* of the chin, while the signs for art, love, and emotion are revealed by the form and development of the *muscles*. If the chin is more bony than muscular, integrity is the stronger; if the muscles dominate, the affections are supreme. Where the fatty tissues are most developed a sense of ease, comfort, and sociality, with love of eating, drinking, and sleeping, will be manifested, and the double and triple chin will register the supremacy of these tastes and appetites.

THE ANGULAR OR CONTRARY JAW.

This peculiarity of the lower jaw is shown by a decided angularity of the bones at the junction of the side of the jaw with the ramus, or where the bone commences to ascend to join the malar or cheek-bone. It denotes absence of ease in the movement of the muscles, and the lack of easy movements shows by contrariness or angularity of conduct—opposition to the wishes and plans proposed by others. In form and movement this jaw is just the opposite of the curving jaw, and it indicates precisely opposite traits. In the curving jaw great ease of action is obtained by reason of the roundness of the bones and the supremacy of the muscles. This combination gives ease of motion to all the joints of the body, and this is, of course, indicated in the motions of the jaw as well. Those who possess this combination are *imitative*, and readily adjust the muscles to suit any position required. They can also make gestures in a graceful manner, and evidence, by their imitations of the walk, voice, and manners of others, that the muscles have free play, and are not impeded by angularity of the joints. This perfect freedom of the muscular system tends to agreeability, whereas the movements of the former are less free, and, as angularity presupposes defective organization of some sort, it is shown in this case by perverse opposition to the will or wish of others, *regardless of whether it be for one's own interest or not.* The angularity which is disclosed in the jaw is an attribute of the entire bony and muscular framework of the body to which this jaw belongs, and registers its facial sign in the lower jaw, particularly. It is a species of contrary will-power, and quite as often acts in opposition to its own desires as it does to the will of others. Sometimes the subject of this unlovely trait will oppose at first what he really desires, and later will accede to the plan first proposed, working by the law of contrariety which is in harmony with his structure, the sign for which is signally conspicuous in his physiognomy.

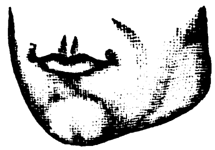
FIG. 158.—VOLTAIRE.

Those in whom this sign is observed are either lacking in good sound judgment or practicality, or knowledge of human nature, or some other important trait. We must look to the indications in *each individual case* to learn which of these faculties is lacking.

The angular form observed in the lower jaw of the bull-dog, the zebra, the South African dauro, the ass, donkey, and quagga, denotes in these animals precisely what it does in man. The character for contrariness of all these animals is well known, added to which the ass and donkey are somewhat knavish and the others fierce—both states of undevelopment. Now, contrariness in man and animals indicates a lack of something which is required to balance the character. Fierceness in men and animals is a symptom of undevelopment, and the signs of these defects are found in the same place in the physiognomies of both these classes. They will all exhibit more or less of the perverse, refractory, unruly, antagonistic, and retroactive traits of character.

The angular jaw is a perversion of the square form; hence, it exhibits neither the steadfastness of square bones, nor the easy movements of round, pliant muscles. It is an unfortunate *chemical* combination. This is an exemplification of the law of the angle *misplaced*. That is to say, an acute angle does not *normally* belong to this feature. It should be *gently curved* to facilitate ease of motion in speech, etc., and as it is just the reverse of this normal method it announces contrariness and opposition both in speech and action. The basic laws of Form wherever applied expound the character, and nowhere are they more strikingly revealed and proven than in this instance.

PROGNATHOUS JAWS.

The projection forward of both the lower and upper jaws which is observed in several negro tribes is prognathous in contradistinction to the more regular and perpendicular form of jaws and lips observed generally in the Caucasian race. This form, termed by anthropologists "Orthognathous," is characteristic of the majority of all the Caucasian races, the European, the Anglo-saxon and their descendants. Yet among all these races the prognathous jaws are frequently met with. It is, I believe, the most frequent among the Irish race, and is also found in other European people, among whom a generous diet and social advantages have been absent for generations. Now, although this form of the jaws belongs by virtue of evolution to savage or semi-barbarous people, it shows up in every civilized country among those who have been impoverished for generations — among those who have lacked ample nutrition, education, refinement, and social opportunities. This is why it is so frequently met with among the poorest of the Irish peasantry, for this people has for generations been deprived of nearly all the accessories of civilization, and this long-continued impoverishment has been followed naturally by degradation of structure, as well as by degradation of moral and mental powers. This long arrest of development has resulted in a genuine "atavism," or reversion to savage types, for it has been observed in hundreds of instances by many observers that the children born in America of parents whose jaws (one or both) were prognathous presented a more modified and comely form than that of their parents or elder brothers and sisters born under the disadvantages of the serf or peasant modes of life. In this case, an ample diet and improved social advantages tended to bring the offspring back to *normal* types and forms from which they had retrograded through generations of deprivation.

The prognathism of the negro is caused by an exaggerated growth forward of the jaw-bone and teeth, and an uncommon development of the lips.

PROGNATHISM OF THE UPPER JAW is caused by an outward inclination of the upper jaw-bone and a protrusion of the teeth and lip, but the form of protrusion observed among the Caucasians is *usually* somewhat modified from this form. In these cases the chin recedes and the alveolar process and the teeth project and are met by a similar projection of the teeth and lips of the upper jaw.

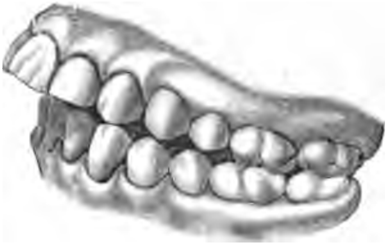

FIG. 159.—PROGNATHOUS JAWS.

In others the prognathism is apparent only in the projection forward of the upper-jaw teeth and lips.

Some jaws are very decidedly protrusive; others less so. This feature thus characterized is always indicative of a sort of kindly, generous, or easy, good-natured disposition, which is doubtless in each separate case the compensation for a defect in some other faculty and feature, for all notorious exaggerations of feature or faculty are defects for which the law of balance of compensation furnishes a remedy, or seeks to do so by the peculiar development of some other feature and faculty. All imperfections of the mouth, the jaws, the lips, and teeth are indications, first, of inherited defects of the nutritive system; secondly, of existing and inherited defects of the vocal and linguistic capacities. Inasmuch as the mouth and its accessories are the organs both of alimentation and speech, it follows naturally that peculiarities in the structure of these parts would be the indications of peculiarities in speech and digestion. The inference to be drawn from this interaction and consensus of function and faculty is that all imperfections and departures from the normal forms of structure of the mouth, jaws, etc., would give rise to defective mental powers. This is the case, as exhibited by those having hare-lip, crooked mouths, cleft-palate, too thin or too thick lips, a mouth disproportionally small, or by lisping, stammering, or hesitating manner of speech, all of which refer to mental or moral defects. The theory of the relation of mental and moral states to oral conditions is sustained by the experience of prison surgeons, who state that large numbers of professional criminals exhibit defects of speech of various sorts.

Now, prognathism is a departure from the normal form of the Caucasian jaw, and may be of two kinds, dental or maxillary. In the former the teeth *only* project; in the latter, the projection is caused by the elongation of the jaw-bone. The negro's jaw is an excellent illustration of the latter; while the more modified form of *dental* prognathism is the variety most frequently observed in civilized communities. The evolution of the lower jaw-bone as observed from infancy to adult life is an additional proof of the above assertions. In the Caucasian infant the lower jaw recedes greatly from the line of closure of the mouth; later it assumes the line of perpendicularity, while in some very firm characters it projects slightly forward of this line.

Mons. Quatrefages asserts that "all races and all individuals are more or less prognathous." My observations in physiognomy do not corroborate this statement, for those whose teeth close evenly together while in a normal position cannot be said to possess any degree of prognathism whatever. Those whose teeth of either jaw project one beyond the other are in that degree prognathous.

I am aware that in ill-balanced characters this appearance is frequently met with, and so numerous are the subjects who exhibit teeth which do not exactly meet that they form a *majority* of the human family. So rarely do dentists find a subject whose teeth do thus meet, that it seems to be the prevalent opinion among them that this is the *normal* structure, for so I have been assured by those eminent and experienced in that profession. I cannot accept as correct their opinion upon this phenomenon for two reasons: first, because a cutting, biting, and grinding apparatus is most perfect where the opposing points meet *exactly;* secondly, because in the best-balanced physiognomies the incisor teeth, which are intended for biting and cutting, come together evenly in the act of closing them or in biting, whereas those not so evenly balanced exhibit often a slight projection of the upper over the lower, or of the lower beyond the upper teeth. A critical and extended knowledge of scientific physiognomy is needed in this department of knowledge, as well as in pathology and psychology, in order to rectify the errors constantly made by those who take the majority of *existing forms* as proofs of perfection, instead of following the course of development shown by the combined sources of embryology, evolution, and ethnography.

PROGNATHISM OF THE LOWER JAW-BONE is evidence of a comparatively undeveloped mind; it denotes an uneven or crude disposition as compared with those possessing the *normal* form of this feature. Where the jaws are both prognathous they can very materially assist in grasping, and in this case are a true prehensile and are analogous to the same function. in the ape tribes. Such feature greatly exaggerated is never seen associated with a first- or even second- class intellect. It belongs to the commonplace or inferior character. The slight prognathism of the upper jaw, which I have observed in the physiognomies of many excellent persons of good intellect, does not denote the grade of inferiority indicated by the prognathism of the lower jaw, while it is always evidence of a certain degree of good-natured, kindly generosity.

The section devoted to the "Upper Lip" which follows gives all necessary information in regard to the physiognomical appearances of the upper jaw; it is therefore not treated of separately.

THE SIGNS IN THE LIPS.

THE UPPER LIP.

When we wish to learn the signification of a feature, we must first observe its use and purpose in the human economy,—the tissues of which it is composed, and its mode of action. Now the lips, as before remarked, are for several purposes. Their primal functions in the human family are mastication and articulation. All other uses have evolved as civilization has progressed, and thus perfect lips have become the indicators of a grade of *refinement*, the absence of which cannot be remedied by the perfection of any or of all the other features. The reason is obvious and may be analyzed thus: The mouth and lips are primary features, assistants to the most primitive of all the functions,—digestion. Now, if these features reveal a high grade of development in regard to form, size, color, and quality, it is an infallible sign of the high grade of the *entire personality*, as a result of civilization and refinement. Where the domestic and sympathetic functions and sentiments, as represented by the mouth and lips, are perfected, we shall find lovely characteristics, even if great intellect is not present, for the perfection of primitive faculties shows a *fine* grade of *all* the associated faculties,—it gilds and refines all the others.

The lips and adjacent parts are representative of the fluids and soft tissues of the body, and as the entire body is built up by means of fluidic action the importance of its representatives cannot be ignored. The ancient Greek philosophers recognized fluids as important factors of human character, for Sir Charles Bell states that

> The ingenious reasoners of ancient Greece ascribed the diversity of disposition to the texture of the frame, not to the features nor to the proportions or shape of the skull, but rather to the *mixture* of the elements of the body, and more to the *fluids* than to the *solids*. These distinctions, familiar to all, have, in every succeeding age, been attributed to the humors. When we speak of the *constitution*, the temper, the humor of a man, we are in truth adopting the language of Hippocrates, who treated of the four radical humors,—the sanguineous, phlegmatic, choleric, and melancholic.[*]

The lips, in order to express harmonious character, must be of a relative proportion, for, says Lavater:—

> All disproportion between the upper and lower lip is the sign of folly or wickedness. The wisest and best men have well-proportioned upper and under lips. *Very large* lips always denote a gross, sensual, indelicate, and sometimes a stupid and wicked man.[†]

The physiognomical observer will find, upon comparing irregularities of the mouth and teeth with their associated characters, that they are, *without exception*, the evidences of unbalanced or abnormal functions and traits, for when the *primitive* functions and faculties are of a low grade the character is pitiable and impoverished in a most essential part. When the *foundation* of an edifice is weak and defective, all the fine gilding and painting of the walls and ceiling will not compensate for this defect. If one examine the features of Zola or Rabelais, he will find that their intellectual and literary ingenuity is saturated with the grossness evolved from their unrefined domestic and sympathetic faculties. Their lips and mouths are physiognomically eloquent, for the exaggerated size and grossness of these features, together with their soft, dimpled chins, reveal the source of their filthy lucubrations. Rembrandt, the great artist, discloses also great grossness of mouth and lips; his life was that of a low voluptuary, and many of his paintings took their inspiration from this part of his nature. If one examine the lips and mouth of Mozart, Goethe, Burns, Sir Isaac Newton, Addison, Handel, La Bruyèrè, Sir Walter Scott, Edward Everett, and Ralph Waldo Emerson, great beauty of these features will be observed. Of the latter, Oliver Wendell Holmes remarked that

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[*] Anatomy of Expression, Sir Charles Bell, p. 130. Fowler & Wells, New York, 1883.

[†] Lavater's Essays, p. 65.

> He had a look of refinement centring about the lips which is rarely found in the male New Englander, unless the family features have been for two or three cultivated generations the battleground and the playground of varied thoughts and complex emotions, as well as the sensuous and nutritive port of entry.

Let one compare the lips of Mad. de Staël (Fig. 103), of Angelica Kauffman, or of William Pitt (Fig. 35), with those of the native Tasmanian woman and Mrs. M. (Fig. 60), and the relative degrees of culture and refinement in these two classes will be at once apparent.

The unity of mind and body is nowhere better proven than in the evolution of the lips. Continental Europeans, as a class, are better endowed in this respect than Americans or English, and for the reason that for generations the cultivation of the *domestic* sentiments has been unrestrained, and the fine arts, music, painting, and the drama have been accessible to the masses for ages. Whereas, the religions of the latter race have tended to *suppress* the display of emotions of all sorts, and the development of a taste for the opera, the drama, and the universal cultivation of music have not been fostered as upon the Continent, hence the emotions, domestic sentiments, and the æsthetic tastes have not made as strong an impress upon the faces of the descendants of these peoples. A most remarkable difference may be observed between the lips of the Germans, Italians, and Spanish, and those of the English and Americans. In the former, the signs for Amativeness, Love of Young, Sociality, and Sympathy, together with Patriotism and Love of Home, in the chin are *most decided;* in the latter, much less so.

The muscles of the mouth and lips, being extremely flexible and capable of describing many diverse shapes, we may naturally expect that *permanent* expressions will follow as the result of emotions and speech that are habitual; thus, the passions of rage, scorn, envy, and malice, if often indulged, mark their presence upon the muscles about the mouth, and the subject of these passions *cannot escape detection*, for scientific physiognomy, in teaching what is normal and what is abnormal in the development of the facial features, lifts the mask from hypocrites, whose smiles only serve to show that they are foreign expressions and put on the *outside for a mask* to cover viciousness. The moral of this is that in order to *seem* amiable we must *become* so in reality. The so-called "upper classes" of England cultivate what they term "repose" of manner and stolidity of expression, and suppress all spontaneous emotion as far as possible, as not consistent with "high breeding." This kind of "breeding" is an excellent fashion for dolts, hypocrites, and criminals, for it enables them to hide the play of the muscles of the face, which would at once "give them away" and tear the mask from their assumed character of being "highly bred." All *true thoroughbreds* can make it apparent that they are such, not by self-suppression but by self-assertion,—by naturalness,—and nowhere is great refinement shown so strongly as by the *unrestrained* expression of the lips and adjacent parts. The master of physiognomy, Lavater, had great opportunity to study the manners of the aristocracy of Europe, and he probably had some of them in mind when he wrote the following:—

> Very discreet, very cold, or very dull, but never truly wise, never warmly animated, never capable of fine sensibilities or tendencies, are those the lines of whose countenance never conspicuously change.*

The movements of the muscles of the mouth, lips, and adjacent parts are highly significant of character. No matter how much one may dissimulate, these movements will betray innate and habitual states of mind, even should the speaker assume a softness of tone and amiability of manner for a purpose; the *constrained* and unaccustomed movements of these muscles will reveal the true character and show by their stiffness and inapt motions that they are performing a part not habitual. On the other hand, one may derive both profit and pleasure in observing the play of muscles about a mouth that is accustomed to use sentiments of sincerity, amiability, and refinement. To watch the play of the labial muscles in certain faces, which the world terms "homely," is a treat to a physiognomist. I do not say that all ugly faces exhibit beautiful movements of the mouth, but there are some countenances which art would stamp as plain, at least, that to the scientific physiognomist would reveal some traits of surpassing goodness and sweetness; and these traits are disclosed more by the movements of the mouth, lips, and adjacent parts than by the outlines of the features, and for the reason that all of the domestic and social signs of character, as well as social and linguistic, are clustered about the lower third of the face.

It is thus shown that art-beauty and scientific beauty are in some cases quite different. Science is intended to reveal *truth*; hence it insists upon making goodness or truth the *synonym for beauty*, for, says Dr. Cross:—

> All living beings in the great sum of things have their ranks in the scale of life on the same level of elevation with their physiognomical beauty; indeed, the correct association out of which *true* beauty arises constitutes the science of physiognomy.†

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* Essay on Physiognomy, p. 462.

† An Attempt to Establish Physiognomy on Scientific Principles, J. Cross, M.D., p. 4.

With these general and preliminary remarks I will now proceed to the analysis and description of the lower lip.

THE LOWER LIP.

The part of the face which lies above the point and middle portions of the chin belongs properly to the lower lip by virtue, first, of a similarity of tissues, the dominant ones of which are glandular and fibroid; secondly, by reason of contiguity.

In all properly-developed human beings the part just below and toward the sides of the red-colored portion of the lower lip discloses two fine signs of character, viz., Love of Home and of Country. When this part is full these traits are strong; when this part is flat they are relatively weak. The tissues about the lower lip are soft, caused by a normal supply of the juices supplied to the glands in this portion of the face; hence these traits would be here indicated which disclose faculties of an *emotional* character, such emotions as glands, fat, and muscle in combination would create. All indications about the mouth and its immediate neighborhood show that they are of a glandular, fibrous, and adipose nature. This is in consequence of their close proximity to the mouth, which is the principal facial feature concerned in nutrition or alimentation. A glance at the figure that describes the glandular formation of the face at the head of this chapter will show how greatly the mouth and adjacent parts depend upon the *softer* tissues and muscles for the power to masticate, articulate, and express emotion, as well by movements of these parts in producing vocal sounds. All signs whose indications are situated in muscular or glandular tissues are shown by well-developed fullness of the part involved. Deficiency is known by flatness or hollowness.

We have learned that the muscles "drop little fibres" all along their course in the face, so we shall find a great diversity of expression about the lower lip in different persons. So diverse are these forms that disputes have arisen among the most eminent anatomists in regard to the *number* of muscles comprised in the lips. It must be apparent to all thoughtful persons that as each individual mouth is associated with a distinct and diverse character (and many of these characters widely divergent in their powers and peculiarities), so each mouth would present an entirely distinct form and appearance. This is really the case, and it is this diversity of labial structure that had led anatomists to differ so radically in their opinions and descriptions of the structure of the lips.

The lower lip of an undeveloped, miserly, unsympathetic individual would present much less fibroid and glandular development than the lip of one whose character was precisely the opposite. Dissections of the lower lip of two persons thus differing in structure would lead, of course, to entirely conflicting descriptions of these features. Under the light of scientific physiognomy all these discrepancies are cleared away, and we are thus enabled to know that a description of one pair of lips will not suit all cases, and that only a *general description of the labial muscles* can be given. Swedenborg has noted the differences of opinion of anatomists on this subject, for he observes that

> All myologists differ both in their plates, descriptions, and enumerations of the labial muscles. Santorinus saw many more than other anatomists. Verheyen added a new risor muscle. Winslow discovered several. "So much variety," says he, "is met within the muscles of the lips in different subjects that it is not surprising that anatomists differ in their accounts. In some subjects portions of these muscles are wanting; in some it is scarcely possible to distinguish them; in others there are particular fasciculi which are not generally to be found."*

Fortunately for the cause of physiognomy we are able to study the racial and national peculiarities of the savage face from the numberless cuts which adorn the works on ethnology. And in civilization art is the handmaid of science and photography aids our scientific study of the face by its numberless "counterfeit presentments" of all classes of people, and thus we are able to observe the labial forms of those who are or have been eminent in the expression of Patriotism and Love of Home, the two faculties whose signs lie adjacent to and just below the lower lip, and, indeed, we may say with justice, form a part of it.

Patriotism, or love of country, is not altogether a trait of civilization, neither is it confined exclusively to the human family, although it here exhibits its highest manifestation. Various animals exhibit a lively affection for their own climate as well as for their own habitat within the peculiar zone which is their birthplace. This is their form of patriotism. Animals manifest a strong love country in many ways similar to man. Many animals that are arried away from their native countries, and even in a state of freedom, exhibit intense homesickness and often die from the intensity of this emotion.

Fullness of the lip, as seen in Figs. 25 and 26, is the facial indication of love of one's own country. It is wonderfully developed in great orators, statesmen, poets, painters, rulers, leaders, and reformers, as their works testify, and is corroborated by their physiognomical structure of the lower lip. Some men have this portion of their face concealed by a beard, hence one of their chief facial beauties is hidden; but among the innumerable persons who have shown by their deeds, as well as by their words, their possession of this trait, I may mention the following, taken at random from portraits before me: George Washington, Wm. E. Gladstone, Emperor Alexander II, of Russia; Bismark, von Moltke, Napoleon I, Lord Brougham, Henry Grattan, Thackeray, Thos. Moore, Goethe, Rosa Bonheur, Robert Burns, Macaulay, Count Cavour, Ben. Franklin, Frederick the Great, Fitz-Green Halleck, Daniel Webster, Wm. H. Seward, Lamartine, Francis Joseph, of Austria; Ericsson, John Quincy Adams, Harriet Hosmer, Admiral Farragut, Florence Nightingale, Walter Scott, Lady Burdette-Coutts Bartlett-Coutts, Abigail Adams, John Adams, Henry Clay, Gerritt Smith, Starr King, and Björstjorne Björnson.

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* Animal Kingdom, Emanuel Swedenborg, p. 53.

All truly noble characters possess this trait, and in many comprehensive philanthropists it widens out, and such minds regard the entire world as their country, and with Thomas Paine they can truly say, "The world is my country." This is indeed the highest manifestation of patriotism.

Under the centre of the lower lip, and between the signs for Love of Home, is an indentation which differs in depth in different faces. Should this place not exhibit an indentation, a certain degree of symmetry, of beauty, is wanting; and as all physical and facial defects argue mental or moral deficiencies, so we shall find that the character whose face exhibits no indentation here, or who shows a slight fullness instead of a slight depression, is not so richly endowed with good sense, true sympathy or sensitiveness, as where this part exhibits a normal indentation. In order that the lower lip should *curve*, and also that the *levator menti* muscle in the point of the chin should round, a depression must necessarily exist between the two places. If it does not. true beauty and true sympathy are lacking.

A face to express beauty, strength, and fine character of an artistic nature, must abound in *curves*, *flexions*, *indentations*, and *undulations*.

A face to express beauty, strength, and high character of a mechanical or scientific cast, must exhibit both *curves* and *angles;* but it must disclose one curve in the descent from the forehead to the nose, and describe *two* curves in the profile outline of the chin,—one curve of the lower lip, the other a curve of the point or lowest portion of the chin.

A handsome or well-formed lower lip is of unspeakable physiognomical value, as it reveals a high grade of character in a certain direction, as well as being the indicator of *general* refinement.

If the primitive or vegetative faculties have become refined by ages of culture, this development will be revealed in the mouth and lips pre-eminently; hence it follows that if the lips exhibit an abnormal form or a lack of development, the social, sympathetic, and domestic faculties are correspondingly defective. No better proof of this statement can be had than by reference to the lips and mouth of undeveloped, immature, criminal, miserly or unsympathetic persons, and by comparing them with those of the most refined.

THE EMBRYONIC LOWER LIP.

The mouth, in the early stages of embryonic life, is a relatively large, irregularly shaped opening (Fig. 150), occupying nearly the whole of the space which is afterward the region in which the facial features make their appearance. Later in gestation, the development of the body and bodily organs produces the development of the facial features, for organ and function develop or appear simultaneously with facial feature and mental faculty. The figure quoted shows how exceedingly low in development the lips are, while the internal visceral organs concerned in digestion are as yet unperfected. This knowledge is a part of the science of evolution, and, taken in connection with the science of physiognomy, it throws a flood of light upon the signification, not only of mental signs in the face, but also gives us a great amount of knowledge as to the facial signs of the visceral organs, which I have discovered and localized.

I introduce the above figure in order that a general knowledge of the evolution of the mouth and lips may be had, and thus by following systematically the onward progress of these features to infancy, thence along up to the highest development possible to humanity as it now exists. From this rich and high growth I propose to show their *retroversion* or degradation to abnormal, impoverished and criminal types, such as are exhibited in the countenances of the idiotic, the feeble-minded, the miserly, the unsympathetic and otherwise defectively organized beings, and which are the result of long-continued abuse or misuse of the bodily organs and functions; and as these internal organs develop progressively as the features develop, so their degradation caused by unhygienic modes of life is registered in the face, for this is the dial or register of what is contained in the mind. Long-continued want of nourishing food produces such impoverishment of the general system as to mark its conditions upon the lips, teeth, cheeks, and gums; so, also, a bountiful supply of good, nourishing food for generations makes its effects felt both in the internal form and action of the alimentary system, and also stamps its effects upon the external contour of the body, and finally registers this condition in the shape of the mouth and lips, the external and facial features and organs of nutrition and of digestion.

In the figure spoken of there are no indications of lips. It is only later in *embryonic* life that these features are evolved, and at birth the normal infant exhibits full, red, moist lips. The infantile state being pre-eminently the age of alimentation, its facial signs would be naturally more prominent than any others; such is the case as observed in well-nourished infants.

INFANTILE LOWER LIP.

The lower lip of all normal infants is full, pouting, rosy, and moist. If well nourished and the digestion perfect, this appearance continues to the adult stage, and shows that the glandular system is normal and creating warmth, color, and adipose tissue with which to clothe the bony framework of the child. The region about the mouth, especially at its corners, is full, and a soft cushion of fat appears in which several beguiling little dimples nestle cosily, and speak only of *love* and *hunger*, the two most pressing demands alike of infant and adult,—the two great forces which underlie life and in their results rule the world.

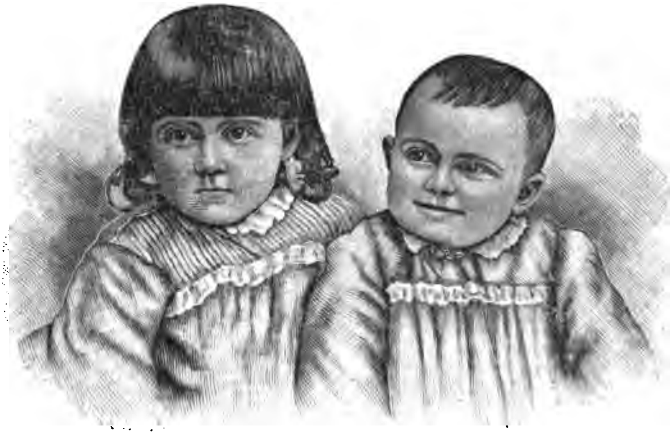

FIG. 160.—MARY AND SUSIE.

Undeveloped or immature infants present less labial development at birth, with not so much beauty of form and color as normal infants, and, when the system has become impoverished by wasting disease, there is a falling off in size and color, and the shape of the lips presents a less beautiful appearance than when in health. The distended mouth of a crying infant appears somewhat like the irregular opening of the embryonic form. In laughing, the lips and mouth form curves of beauty, proving that the latter act is normal; the former act not so much so.

Happiness and comfort are the ultimate aims of life; laughter is the normal expression of both; crying, the natural outlet for pain and suffering. The one creates strength and beauty; the other, in excess, weakness and ugliness.

The lower lip is the facial sign for the glandular system, and, as the chief office of all glands is to secrete liquid material for the upbuilding of the tissues of the body, we shall, therefore, expect that the lips of those who live mainly upon liquid foods, or who indulge greatly in soups, sauces, milk, ale, beer, lemonade, etc., would disclose this propensity. Observation of the mouth and lips of those who live mainly upon a liquid diet reveals this taste by the large size of the mouth and the development of the lips, particularly of the lower lip. Comparison of this class of mouths with those who are poor feeders and whose digestion is feeble will show us the form and color of the mouth and lips just the reverse of the former. Infants are liquid feeders, hence their mouths are relatively large and flexible. The intellect has not as yet attained sufficient power to shape it into intelligent expressions, but when the child begins to talk and think the lips and mouth assume more intelligent forms, and after the diet changes from a liquid to solid nutriment the shape of the lips, cheeks, and corners of the mouth change materially, the globose form of the infant's cheeks is changed to a more artistic curve, and the lips are not so pouting.

The lower lip has many uses besides those of mastication, tasting, and articulation. Its changes in form and color denote pathological conditions of great service to the physician in detecting and diagnosing certain diseases, such as fevers, etc. Its size and color in the healthy subject announce power in the direction of digestion, and so we come to consider the gustatory lip.

THE GUSTATORY LIP.

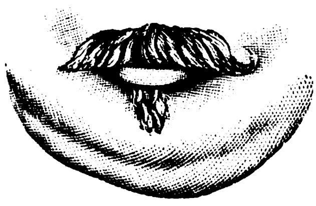
FIG. 161.—ALEXANDRE DUMAS.

The sort of lower lip which detects flavors and enjoys drinking and eating is full, protrusive, red, and moist. The line of closure will be of varying form according to the character of the subject. As a rule, however, the largest eaters have the largest mouths and the fullest lips. Negroes make good cooks, and are good judges of flavors, and possess large mouths and lips. Individuals with small mouths (if the lips are full and red) have considerable gustatory power and excellent digestion, as the lower lip is the facial sign for glandular action, as well as of the sentiments and feelings which flow from a well-nourished organization. We have seen formerly that an organism full of rich, warm blood and juices, and supplied with strong fibres and warm tissues, is more actively helpful, sympathetic, and sociable than one whose body is wanting in blood, color, warmth, and strength. We shall expect to find, then, that those who disclose the facial sign large for the glandular system will exhibit more sociability, more linguistic taste and capacity, hence greater desire for associating with others at meal-times and in social converse.

This combination of traits would naturally have their signs registered in the face and upon features devoted to their exercise, viz., upon the mouth and lips; hence it will now be in order to investigate the "sociable lip."

THE SOCIABLE LIP.

This lip, by its size, color, texture, and moisture, tells us of the internal alimentary condition.

A very full and red lower lip of *coarse* quality discloses a great eater and talker (if the mouth be large). If the quality or texture of the skin be fine, with this appearance, sympathy, generosity, and sociability will be present, and the language chaste and refined.

There is a nice distinction to be made between sociability and friendliness. Examination of the conduct of some shows them to be of a chatty, talkative disposition, yet lacking in the active offices of friendship. This class will disclose a full lower lip, usually a well-developed upper lip, but with flat upper cheeks where the sign for Friendship is situated; while others will exhibit both sociable traits and an active, friendly spirit. The latter are characterized by both a full, rounding, red lower lip, and a full upper cheek, the signs for Language and Friendship. It is by understanding the development of the several facial signs which renders the knowledge of individual peculiarities so easy of comprehension.

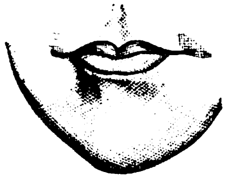

FIG. 162.
WILLIAM PITT.

THE LINGUISTIC LOWER LIP.

The lip which approaches most nearly to the normal form and size, if of fine quality and of bright, healthy color, is the best adapted to language. All great orators and actors, as well as brilliant conversationists, exhibit well-formed and well-proportioned lips of a normal color, thus showing the activity of the blood and juices of the body. This activity gives warmth, fervor, and enthusiasm to the language, and thus the speaker is able to impress his hearers more forcibly than he who speaks in a weak, faltering, hesitating, lackadaisical manner.

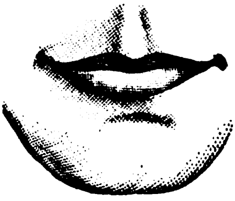
FIG. 163.
DE WITT TALMAGE.

The linguistic lip is well curved, *firm* in appearance,—that is to say, not flaccid or loose,—of a bright-red color, and the mouth relatively wide.

The linguistic lip and the sympathetic lip are somewhat similar in shape, for "out of the fullness of the heart the mouth speaketh," and a sympathetic person will be often prompted to eloquence in pleading the cause of the suffering. No one can succeed as a pleader or persuader whose lips are thin, pallid, dry, and ill-shapen; such a one will not succeed as a lawyer, minister, auctioneer, or book-canvasser.

THE WITTY LOWER LIP.

This form of lip shows a depression through the centre. It is an unfailing indication of wit and mirth.

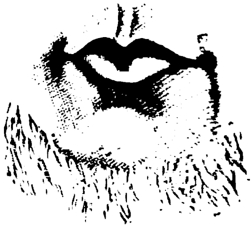
FIG. 164.—JULES FAVRE.

Lips *too large* cannot enunciate clearly and concisely, hence the tones are thick and blubbering, like "Brudder Bones," of the negro minstrels. Lips which are *too thin* are too weak to produce strong tones, and so emit faint and sharp notes, which fail to command respect. A voice which is rich, full, and clear always commands the attention and respect of the listener.

Good orators, actors, and singers not only exhibit full lips, but the parts adjacent to the mouth are well developed; particularly is this the case below the lower lip at its sides, where the signs for Patriotism and Love of Home are situated. The centre of the upper lip is also full at the sign for Amativeness, and these traits in their combined power yield to the speaker a rich endowment of sentimental emotion, which, when portrayed by the actor or orator, never fail to arouse the feelings of the audience to the highest and most spontaneous enthusiasm.

THE BENEVOLENT OR SYMPATHETIC LOWER LIP.

There are so many forms of the benevolent or sympathetic lip that it would be impossible to describe more than those most commonly observed. Sympathy may always be predicated wher the lower lip presents a normal fullness, normal color, and is moist, or has a fresh appearance. A lower lip which is congenitally thin, pallid, and dry betokens a want of sympathy through lack of bodily vigor and power. Let it be understood, however, that finely organized persons—those in whom the brain system is dominant—will exhibit *relatively less size of the lip*, but more *power*, by virtue of quality or fineness and keenness of organization and sensation. Many of the latter class possess far more sympathy and benevolence than a big-lipped negro, or a coarse, burly, thick-lipped gormand. The mental class show their benevolence in a mental manner by wise plans and schemes for the amelioration of large numbers of the needy, and this may be known by the general signs for the brain system.

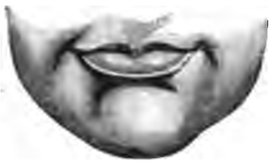
FIG. 165.—WILBERFORCE.

The general form of this lip is elliptical in its outward curve, and slightly arched from corner to corner. The reader will observe more and more as he progresses in the study of the face that arches and curves in the facial features indicate activity, health, and beauty; the lack of them relatively less health, activity, and beauty. *Exaggerations* of the normal size denote either coarseness, stupidity, or lack of activity, and consequently less beauty.

If the lower lip is exceedingly protrusive and the quality of the skin coarse, there will be less sympathy and benevolence, and more of selfishness, gluttony, and sensuality, together with a great capacity for "gab," instead of reasonable conversation.

Where the texture of the skin is fine and the lower lip *very full*, a great deal of generous feeling will be manifested. This exaggeration of the normal size is due to the action of the law of compensation. Usually where these appearances are noted we shall find a deficiency in the structure of the *chin*, which is in such cases very receding, thus indicating a want of firmness; or it may be narrow, showing lack of justice; or it may be both short and narrow, denoting absence of both these faculties. The very full under lip is *usually* associated with a small or receding chin. A normally-shaped chin needs no counterbalancing effect of undue benevolence, for a balanced justice and conscientiousness will see that whatever is due to others shall be meted out to them. Still, I have known many lovely characters who exhibited this unbalanced form of lip; they were very kind and generous, but not firm, persevering, nor severely strict in their demands for justice. Their moral conduct came from the strength of their other faculties, and from the warmth of their affections. It is in these ways that

Nature endeavors to *level up* or balance each character which is possessed of faculties which are excessively strong or excessively weak.

There are many phases of the sympathetic feeling, and it is manifested in a variety of ways. Some feel and *do* for others; some sympathize and *give* of their means; while others *talk*, plan, and *write* for the distressed, or use their influence and position to assist the needy. Another class become missionaries, and endeavor to save souls. Still another class become socialists, and strive to save bodies. Others look entirely to mental improvement, and thus this feeling fortunately shows in as many ways as there are human needs. The signs of character in combination with each individual lip will show whether sympathy, generosity, benevolence, or philanthropy will be manifested, for all these are different phases of the same faculty.

The lower lip, which presents the most normal form of sympathy, is also the best for conversation and oratory.

THE SECRETIVE LOWER LIP.

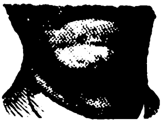

FIG. 166.
A CONVICT.

Secretiveness has its signs in both lips, as well as in the shape of the line of closure of the mouth. The signs of concealment in the lower lip are known by thinness and sometimes dryness of the red part, which is concealed from view when the mouth is closed.

Small mouths, with thin, pallid lips are extremely uncommunicative. When we reflect that the lips and mouth are used for many purposes, we can easily understand why a defectively constructed lip indicates a lack of linguistic and other capacities. The mouth and lips assist gustatory taste, singing, talking, whistling, crying, laughing, chirping, groaning, shouting, playing upon musical instruments, and often are used as a prehensile implement to grasp and hold on to objects. From this exhibit of the functions of the mouth and lips, we can estimate to a nice degree how much power and variety of movement inheres in a well-developed pair of lips, and also how much less expression in many directions one is capable of whose lips are lacking in normal development. It has been said that the oyster in one respect knows more than man—it knows when to shut up. This may be true, but it is evident that, unlike the man, it does not always know when to open its mouth, else it would not be so often devoured by its aquatic enemies, which are lying in wait for just this injudicious act on the part of the oyster.

Nature has been extremely kind to defectively organized or unbalanced beings by bringing to bear upon their cases the law of compensation; for when we find a very uncommonly defective person,—one who is wanting either in mental, moral, or practical power,—we observe that the law of compensation steps in to his aid and shuts the mouth tightly, and such beings are very chary of opening the mouth to discuss any subject which may be under consideration in their presence, for should they, like the oyster, unguardedly open their mouth, their lack of logic, or reason, or truth, or common sense would be at once apparent; hence, the meaning of large Secretiveness is self-explanatory—*there is something to hide.*

The *form* of the secretive lower lip is various, depending upon the general corporeal development observed in each subject. Sometimes the line of closure forms an arched shape, thus: ⌒. In others it is just a simple horizontal cleft, as if cut with a knife.

The lips of secretive people are usually firm, and seem held in constraint by the force of the will. This is really true, for such persons are constantly *on guard*, and when under any powerful emotion they give way to speech they will make the most astounding disclosures, such as no well-balanced judicious mind would ever communicate.

Secretive people are very fond of knowing other people's affairs, and will listen with avidity to all that is said; sometimes even getting in close proximity to the key-hole in their greed for knowledge, and when they are seized with a *gushing impulse* they are quite as apt to reveal the affairs of others as well as their own.

Those who have cultivated Secretiveness for a number of years shut the mouth closely, and shut in all or nearly all of the red of the upper lip, and sometimes nearly all of the red of the under lip, which is revealed when the mouth is opened.

There are other facial signs of Secretiveness; these will be treated in their proper order.

THE CRIMINAL LOWER LIP.

The lower lip of congenital criminals is almost always disproportionally small and thin, or else greatly exaggerated in size. Often the two lips are unequal in size and the line of closure irregular, crooked on one side, or raised up or lowered at one corner, or by some irregular or ugly shape testify to their departure from a normal form.

In some cases the upper lip is thin and pallid, and seems drawn to the lower one as if by a cord; the sympathetic traits are absent, and the faculty of Benevolence will be wanting.

A lower lip which describes a bias form—that is, one which rises upward at one side from the centre, while the other side remains straight or horizontal—is false, untruthful, prevaricating, and unreliable; that is to say, when it is congenital.

Criminals usually show their depravity most in the mouth and eyes. These features are mobile and flexible to such an extent that they can be greatly changed from their normal form, as we often observe in the countenances about us. Congenital crookedness of these two features argues crookedness in speech, inasmuch as these are the facial signs of Language, and both dependent upon the muscular system mainly for their power to perform movements, Now, one may be perfectly honest in regard to the payment of just dues (if his bones be straight and square he will be inclined to this principle), but if, at the same time, his eyes are crooked, one looking in one direction and the other in another direction, or his mouth awry, he will be inclined to falsify and misrepresent the truth, even when the truth would serve him better.

All *crookedness* of the muscles indicates either crookedness of the language or lack of sexual morality. The lower joint of the leg of a natural rake is often observed to be crooked, and this appearance of this limb is an unfailing indication of licentiousness or unbridled passion. The law of "Skewism" or "Sinistrality" throws out its warning signals upon various parts of the face and body. Even the crooked position of the feet, or the shoulders, if sloped too narrowly, announce the crooked or slippery nature of those thus characterized; and thus Nature, provident mother that she is, forewarns us, by these danger-signals, of the presence of immorality, and in this manner attempts to guard her children from the sin of reproducing progeny from such defective types.

The laws of Form, when applied to every part and feature of the human being, will unfold the entire character, and we shall be able by this test to know in just what manner or method a man thinks; for, says one of the greatest of artists:—

> A man generally thinks according to his formation, and not only does he think according to his formation, but he acts and works in accordance therewith.

A knowledge of the laws of Form, together with the inherent meaning of the geometric elements of Form as applied to the human face and body, will enable young people to avoid intermarriage with crooked, criminal, weak, and defectively-organized beings. It is in this manner that *scientific selection* will supplant the slower and less certain method of "natural selection," the method now pursued by the law of evolution in the attempt to carry forward the race to physical, moral, and mental perfection.

A flaccid, loose, flabby lower lip is also a sign of weakness, and denotes both a lack of gustatory taste and deficient linguistic ability; if it be pale as well as flaccid, a dyspeptic or consumptive tendency may be inferred. Lavater observes of this condition, that

> A perfect agreement may be observed between the lips and the character; whether they be firm or soft and flexible, the character is always of an analogous description.*

Lips that jerk, twitch, or quiver, or that are tremulous (when they are not the effects of nervous shock) are signs of either imbecility, weak-mindedness, debauchery, or criminal tendencies. All these phenomena are the reverse of the normal condition, and when a feature is precisely opposite to what is normal it has its origin in weakness or criminality, or both.

THE UNDEVELOPED LOWER LIP.

There are many diverse forms of undevelopment of the lower lip, each of which signifies a certain sort of deficiency either in sympathy, gustatory power, or vocality.

A thin, flat, dry, pallid lower lip, with a disproportionally small mouth, signifies relative lack of digestive capacity, together with absence of the sense of flavor, taste, etc., also relatively feeble linguistic powers with small amount of sympathetic feeling. If the lower lip be thin, flat, and red, and the mouth of normal width, the gustatory capacity will be greater than in the former case, and the sympathies more active. Many misers and hermits exhibit undeveloped lips, thus showing the absence of those beautiful domestic traits the possession of which lead men and women to desire family and friendly associations. When a character shows by the impoverishment of his lips that he is deficient in benevolence or sympathy, love of home, of country, of children, and of the opposite sex, he is poor indeed, and does well to hide himself away in hut or cave. His company could benefit no one, and probably he could not be much benefited by the society of others. Such beings *instinctively* feel their deficiencies, and, like some sick

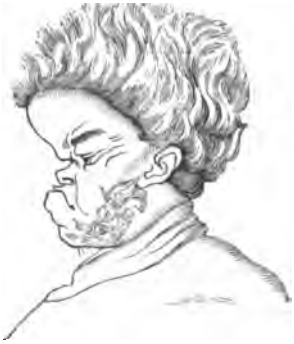
FIG. 167.—A BASHKIR. (After Lavater.)

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* Lavater's Essays, p. 190.

animals, they withdraw themselves from the society of those to whom they would be only a nuisance.

There are many grades of undevelopment shown in the lower lip, and in proportion as it is lacking in size, color, form, and moisture will the character be wanting in some one or more of the traits whose signs are situated upon and about the region of the lower lip. In some, the lip is observed to be habitually dry. This peculiarity indicates a close-fisted character; one whose heart will never run away with his head.

Moisture of the lips denotes activity of the glands, which are the sustaining powers of the domestic emotions. Accidental dryness of the lower lip denotes some pathological disturbance of the glandular system; so, also, does change of color. Physicians understand the significance of labial changes and are influenced by them in their diagnosis and prognosis of various diseases.

When both lips are undeveloped, there is very little red color in the lips and the mouth seems like a mere gash, whose lipless line makes it appear like the mere opening for a receptacle for food. This form is a reversion to low animal types, and resembles the fish mouth in its line of closure. The mouths of many species of deer present this form also, and these creatures are singularly *silent*, rarely uttering a sound, except when in great pain.

The absence of the curved form in lips shows lack of power,—vocal and gustatory,—as well in animals as in man. Herbivorous animals have relatively less labial development than the carnivorous classes, whose appetites are stronger and who are more *noisy* in the demonstration of their emotions. Contrast the lips of the sheep, the goat, the horse, and deer with those of the cat, the bull-dog, the lion, and the tiger, and their facial differences will be as perceptible as are the traits whose signs are registered in the lips.

THE STUPID LOWER LIP.

Lavater gives as one sign of stupidity the projection of the under lip, which measures one-half the width of the mouth. It is also one sign of avarice.

All projections forward of the line of closure of the under lip, beyond a normal fullness, are indicative of disagreeable traits. Projections forward of the upper lip, beyond a line dropped perpendicularly by the side of the nose, although they may reveal a want of balanced character, are more favorable to character than the excessive projections of the under lip. In many cases where the entire upper lip has a forward direction, commencing at the under part of the nose, there is a positive degree of kindly generosity or active sympathy; but this formation, and its accompanying characteristic, is the *compensation* for some defect which the observer must decipher, as the defect varies in different persons. In some it shows by a want of normal practicality; in others, absence of a large degree of the moral sense, or a lack of reasoning power, etc. The cause must be sought for in each individual case.

In reading the meanings revealed by the form of the lips, we must bear in mind the rule laid down by Lavater, that "All disproportion between the upper and lower lips is a sign of folly or wickedness." Now, Lavater did not bring science to his aid; else he would have modified this statement somewhat and softened the terms, for a man may possess a disproportioned upper lip without being either greatly wicked or extremely foolish. That he will exhibit some defective faculty and function in a greater or less degree I am certain, and this defect, together with its compensatory trait of kindly-generosity, are both revealed by this form of lip.

If the projection of the upper lip exceeds a certain degree, it is termed "prognathous," and is the certain sign of a low grade of evolution, as observed in savage tribes, the Ethiopian, for example. If the under lip assume a prognathous form, it also reveals undeveloped character. When both lips are extremely full without being prognathous, and the quality coarse, they are evidences of coarseness, gross alimentiveness, sensuality, and mental dullness, and exhibit the acme of powerful animality; but if the quality is of an average fine degree, the indications will be softened to epicureanism and great sociality, and disposition to loquacity or fluent conversation.

THE DESTRUCTIVE LOWER LIP.

A mouth whose lower lip curves downward or outward, just where the canine teeth are situated, denotes destructive and cruel tendencies. This form of lip is seen in the lower lip of cruel and ferocious carnivorous animals, notably in the lip of the lion, the tiger, the panther, and the cat. It is always associated with an unfeeling disposition, particularly if *the eyes be very light.*

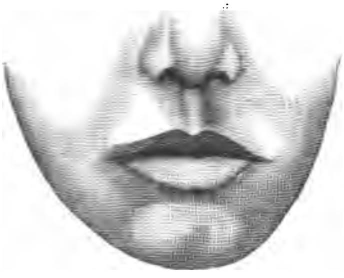

FIG. 168.

I have observed this form in several intellectual persons. In these the destructive tendency was shown by sarcasm, invective, and a disposition to combat and oppose the theories advanced by others in debate and by writings. In others it may be shown by a tendency to destroy clothing, furniture, etc., by violent and improper use of them. This lip always shows a good degree of bright color, and the canine teeth are well set out, so as to give a sort of corner or squared look to the sides of the lower lip. The mouth of the bull-dog gives one a good idea of this peculiar formation.

The mouths of sheep, and other graminivorous animals, are just the reverse of the former. The canine teeth in these classes incline *inward*, and the jaw curves at this point, instead of squaring, as is the case with the carnivorous animals and destructive people. In conversation and in laughter this peculiarity of feature is most apparent, but is not always conspicuous when the mouth is closed.

THE UPPER LIP.

The upper jaw being a comparatively passive feature, and the lower jaw a most active and flexible one, it is evident that the lower lip would express more active passions than its fellow. The muscles which assist the lower lip in its movements enable it to do a variety of things of which the upper lip is incapable. It is true that the upper lip has a superior muscular attachment, but the lower lip, by its attachment to the more freely-moving lower jaw, possesses more mobility. It is thus able to express more active sentiments and passions, and to make more energetic movements than the upper jaw.

DIVISIONS OF THE UPPER LIP.

To facilitate the reading of the upper lip it is divided into three parts (Fig. 169). The sign for the faculty of Amativeness is situated in the centre, while the two signs for Love of Young are placed on either side of Amativeness.

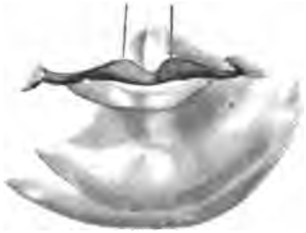

FIG. 169.

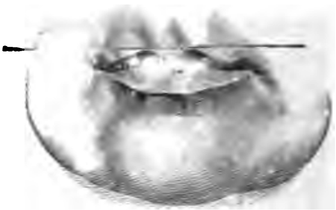

FIG. 170.

The upper lip may also be divided horizontally into two parts (Fig. 170), viz., the red-colored portion and the part which lies above the colored portion, and which reaches to the nostrils.

The colored part is sensitive, and well supplied with nerves and glandular tissue. It is also moved by a portion of the *orbicularis oris*, a muscle which is circular and extends all around the mouth.

The signs for Amativeness and Love of Young are located in the colored portion of the upper lip; Mirthfulness is indicated by the upward curve of its corners; while Self-esteem and Modesty have very decided facial signs in this feature. It is thus shown how important a factor in physiognomy is a well-developed *upper* lip.

Now if this feature be thin, pallid, and constricted in appearance, these two beautiful domestic faculties are relatively weak; not only are the sentiments of Amativeness and Love of Offspring lacking, but these deficiencies point to physical defects of the related physiological organs, viz., of the generative capacity, and of the glandular tissues connected with the function of lactation. A want of development of the features of the face always refers to and is the index of impoverished conditions of internal organs and functions. As narrow nostrils denote small or weak lungs, so a thin, upper lip announces defective or weak conditions of the reproductive forces of the body.

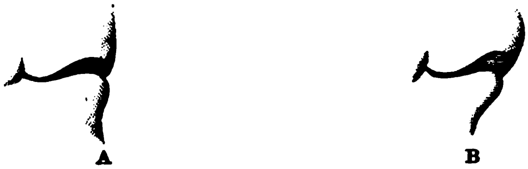

FIG. 171.

The *normal position*, A, of the upper lip is perpendicular, while the convex or outward curving of the middle portion, B, is an *exaggeration* of the proper position. This last form is observed in great egotists, braggarts, and "blowhards."

All variations in the form of the white portion of the upper lip relate to Self-esteem or an absence of it—to great self-hood, self-feeling, independence, dignity, egotism, or to its opposite, excessive imitation, and a lack of dignity and independence and corresponding demand for the approval of others.

THE EMBRYONIC UPPER LIP.

In the human embryo, in its early stages, the mouth is lipless (see Fig. 150, this chapter), and the places where lips eventually evolve do not at all resemble the perfected lips of the normal human being, nor do they prefigure such development. It is only in the latest stages of prenatal life that the lips are perfected as we find them at birth. The mouth and its accessories develop *pari passu* with the development of the visceral and other internal organs.

As the evolution of the digestive organs progresses the mouth, lips, and cheeks assume a more complete form, until at birth the physiognomy reveals by its appearance the condition of the digestive apparatus. If the lips and mouth are normal in size and shape the digestive function is also normal.

The foregoing statement teaches why undeveloped lips are the indications of undeveloped visceral organs.

An embryonic upper lip in its early stages is characterized by thinness and is destitute of color. The mouth is a mere hole, and the lips have no resemblance to human lips, nor indeed do they resemble the lips of an animal; they are expressionless and barely rudimentary. Now, the nearer the approach of adult lips to this form, the closer is the resemblance to rudimentary lips and their allied signification—undevelopment. In the lips and mouth are situated the signs for the primitive functions, viz., digestion and reproduction; hence the appearances noted in these features stand indicative of these two functions and their associated sentiments.

The upper lip tells us of the condition and development of the reproductive system; the lower lip, of the state of the glandular system; and *both together* announce the degree of amative sentiment and sympathetic feeling to be found in the character.

We kiss with *love* and *kindness*, for the placing of the two lips against those of the beloved object is a spontaneous act of affection, the natural language of both passion and sympathy; for kisses, by their spontaneity and warmth, indicate sexual or benevolent feeling, and these feelings depend for their expression upon the *strength* of the organs, to which they are physiologically related.

When one is excited by emotions of sympathy or amativeness it never occurs to one to pat the head of the beloved object with the hand; the kiss upon the lips is the true language of *love*, and although caressing is also one expression of love it is a secondary sign and subordinate to the kiss upon the lips.

THE UNDEVELOPED UPPER LIP.

Those upper lips which are thin, flat, and white down to the line of closure of the mouth are to a certain degree undeveloped. Such mouths betoken a great deficiency of Amativeness and Love of Young; hence a lack of procreative energy and sympathy for children, and in this case the individual will fail to care for or attract either the opposite sex or children. It is true, if the subject possess an agreeable disposition and fine mental gifts, he or she may attract those who value these qualities above mere physical graces, but at the same time he will never be as popular with the majority of the opposite sex as a more magnetic person. The fact is, that each mental faculty has a physical base from which it derives support, and from the large development of which it is able to give out an aura or force quite perceptible to those who come under its influence.

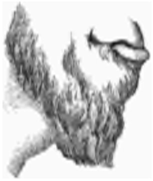

FIG. 172.
AN IMBECILE.

There is no faculty of the human mind that exerts a more powerful influence upon others than Amativeness; no faculty which gives out a stronger magnetism; none that are both more attractive and more repulsive. Now, as the procreative function is the base of creative talent we will not find with the undeveloped upper lip much originality unless the brain system is large and of fine quality and of a suitable form for mental efforts. In this case it will take a philosophic turn and not a mechanical or artistic one, for these professions require a plentiful supply of muscle, and a thin, defective upper lip discloses a defect of muscular and glandular tissues.

Where the upper lip is very thin and colorless, and the mouth small, the structure of the reproductive system is always faulty and wanting in power. Females with such a lip and mouth are poorly adapted to wifehood or maternity; while men with such a formation of the mouth and lip will scarcely make a devoted, enthusiastic, marital companion.

THE PHILOPROGENITIVE UPPER LIP.

This long and awkward word is meant to express "love of young," and as we have no better word in our language to express this sentiment in a single word I am obliged to use it. The upper lip which reveals a fine degree of this lovely domestic trait is known by the downward droop at either side of the centre of the lip. It adjoins the sign for Amativeness and lies next to Mirthfulness, its natural and necessary associate.

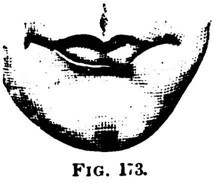

FIG. 173.

There are many degrees of its manifestation, some lips exhibiting delicacy of development; others disclose an upper lip resembling the lip of the St. Bernard dog, the mastiff, and retriever. These all have the outer corners of the upper lip *overlapping* the lower one and shaped like a little scallop. This exaggerated form is indicative of *physical* love of offspring, and is shown by a desire to have many children, and those thus characterized are particularly fond of them in infancy and regret to see them grow out of that stage.

The normal development of this sign in the upper lip (or even its exaggerated sign) is a mark of beauty and assists in forming that lovely curve of the line of closure of the mouth known as "Cupid's bow." This line is composed of three perfect curves, and is observed in the mouths of all who have a fine development of Amativeness, Love of Young, and Mirthfulness. Examine, for example, the mouths of Goethe, Mozart, David Hume, Edmund Burke, D'Alembert, Molière, Claude Lorraine, Cromwell, Addison, Benjamin Franklin, Sarah Siddons, William Pitt, Baron Cuvier, and Henry Ward Beecher. In all of these the signs for Amativeness, Love of Young, and Mirthfulness are quite marked; that of Benjamin Franklin is particularly decided in the sign for Love of Young. This last trait was so great in him as to lead him to make a companion of his illegitimate son, for it was he who assisted him in his kite-flying expeditions when he "brought the lightning down from heaven." A rare instance of parental love for a *man* to exhibit, and certainly very commendable in him to care for his natural child.

Mouths deficient in the sign for Love of Children are straight, instead of drooping, and pale and dry at the sides instead of being moist and red.

THE MODEST UPPER LIP.

Modesty, like all faculties, has several facial signs. Persons possessed of high or fine quality exhibit some phase of this self-protective trait. Its principal facial sign is found in the depth of the groove or channel which runs down the upper lip and seems to divide this feature in two parts. Another sign of Modesty is found in the fineness of the texture of the skin—in its purity and clearness. The analysis of this last sign is that the finer the skin, the more sensitive the person; and sensitiveness of the nervous system leads one to purity of thought as well as to cleanliness of body.

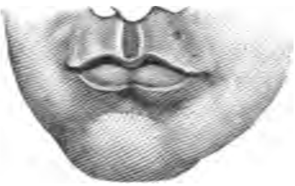
FIG. 174.
SIR WALTER SCOTT.

The location of the first-mentioned sign for Modesty is noteworthy. It divides Self-esteem and runs down into Amativeness. In the first instance it tends to check egotism, and in the second place puts a guard upon Amativeness, which, unbridled, would lead to impure language and gross conduct. The grouping of the signs in the face of related faculties is not the least wonderful of the facts of physiognomical science.

THE IMITATIVE UPPER LIP.

A relatively short upper lip with an inward curve is an unfailing indication of the presence of some phase of imitative ability. Nature always tends to assist or compensate every character for its defects. Now, a *very short* upper lip is a departure from *proportion*, hence is not normal or balanced. The compensation which restores the equilibrium is in giving to the character a certain degree of imitative ability, or, in some cases, *talent*, by which the individual is able to attract and hold the affections and interests of others. Many, if not most, actors, actresses, musicians, and some poets exhibit this form of upper lip. Shortness of the lip alone is not evidence of imitative *talent;* this latter quality depends upon the possession of fine quality of the brain and nervous system.

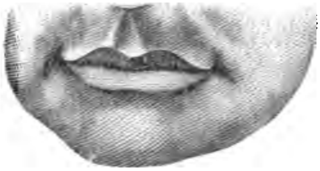

FIG. 175.—MIRTHFUL MAY.

There are many grades of each faculty, and one with a short upper lip of *coarse quality* would not, of course, display the same degree of imitative talent that one would who possessed a high quality and a suitable brain. A short upper lip denotes relative lack of Self-esteem. Nature always compensates by bestowing a large share of Approbativeness; hence, we shall find that those with this peculiarity of feature display more temper and are possessed of less dignity, independence, and self-control than those with a longer upper lip. As a rule, they are more entertaining and amusing through the power of their imitative ability. They can play, act, sing, recite, and relate stories in a very attractive manner. Their Approbation leads them to make great efforts to gain applause, and this is to them highly gratifying.

This course is just the opposite of that pursued by those with large Self-esteem. The latter desire the approval of their *own* judgment; the former seek the approval of others, and herein lies their satisfaction and reward.

There are several peculiarities of form observed in the short upper lip which are not common to the long upper lip. In many subjects a slight outward curving of the lower part of the lip is seen; in some others this outward curving is very marked, and the curvation is so decided as to prevent the closing of the lips, the upper always projecting slightly beyond the lower one. I regard all these departures from the normal perpendicularity of the upper lip as indicative of defects,—as tokens of *slight* prognathism, yet not so decided as to indicate savage or barbarous conditions of mind. Still, persons thus characterized will be uneven and fitful in temper,—now calm, and again exhibiting a sudden and violent outburst of anger, or they may exhibit violent love or other emotion. It always relates to an unbalanced state of the emotions, and absence of equilibrium is, in a certain degree, undevelopment. In coarse persons these peculiarities of the upper lip denote animality in many ways. In some it is related to gross amativeness; in others, selfishness; in other cases, terrible outbursts of passion, accompanied with unjust and unmerited suspicions and accusations, are the proofs of a lack of self-control and self-esteem. Observation of all the other features in each individual case will decide which of these several defects is the exciting cause.

Where the upper lip is relatively short the muscular will be one of the dominant systems, and this system is the one best adapted to art and imitation, as well as to passion and emotion. The long upper lip is always the sign of the dominance of the bony system, for the lip in a balanced character marks the length of the *bony structure* of the *upper jaw;* this is longer where the osseous is one of the dominating systems. Bone gives length; muscle shortens and rounds those features in which it is the principal tissue.

In almost all of the typical faces of the ancient Greeks we find all of the signs of the dominance of the muscular system, or of the combination of the brain and muscular systems; and, as they were an art-loving race, we shall find that these physiognomies have all the signs of muscular supremacy, the most conspicuous features of which are the short upper lip and the curving or "dramatic" jaw. It is in the peculiarities of these two features alone that we can prove the dominance of muscle and the possession of the imitative faculty. We do not imitate with our *bones* any more than we love or hate with our bones. Emotions of all sorts are the offspring of soft and variable tissues, and muscle and glands are the best adapted to the exercise of variable, shifting moods. Bone alone is competent to display the more solid and enduring traits.

THE SECRETIVE UPPER LIP.

The form which this peculiar feature assumes is in harmony with its purpose and interests. It is often pointed downward in the centre, and seems as if trying to overlap or close entirely the cleft of the mouth. In some countenances the whole red part of the upper lip is hidden from view when the mouth is shut, and forms with the lower lip only a horizontal cut or cleft. Some very secretive people expose a certain degree of the colored portion of the upper lip. This is where Amativeness is well defined. Yet it may be mentioned, in passing, that extremely secretive characters rarely possess a large degree of Amativeness; neither do they possess a very large emotional nature of any sort, and what little emotion is present in them is constantly suppressed or held in check, and thus depreciates through want of exercise.

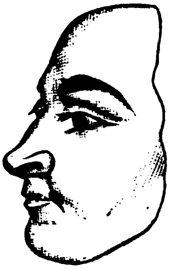
FIG. 176. ROBESPIERRE. (THE SECRETIVE UPPER LIP.)

The secretive mouth should not be confounded with the meditative mouth. The profound thinker talks more than the secretive one, but, when he does speak, wisdom, good sense, and truth accompany his utterances. It is true, he does not show as great loquacity as the linguistic individual, yet can talk to the purpose and intelligently when he does converse. The upper lip of the most silent animals is similar in form to the secretive upper lip in the human family. The mouths of the several deer tribes, the giraffe, and some others are of this formation, and their upper lip projects slightly beyond the under lip.

THE SELF-ESTIMATIVE UPPER LIP.

Self-esteem is known by relative length of the entire upper lip, from the nostrils to the line of closure of the mouth. Disproportionately short upper lips denote a want of Self-esteem, but always betoken a large share of Approbativeness and imitative ability of some sort. Exaggerated length of the upper lip gives to the character egotism and extravagant ideas of one's importance, and lends a ludicrous dignity to the character which is apt to unduly magnify its powers and importance.

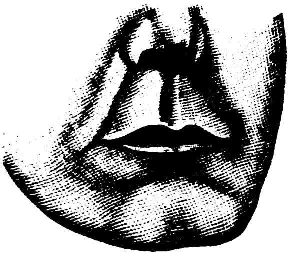
FIG. 177.

A normal share of Self-esteem is a fine possession, for it shows that the character is independent, self-respecting, dignified, and quite opposed to lowness, meanness, vulgarity, and quite capable of holding the feelings under control.

One with large Self-esteem may or may not have the sign for Firmness large, yet some physiognomists have made the mistake of placing the sign for Firmness in the length of the upper lip. It is true that long-continued persistency in any direction, whether in thought or in manual labor which requires great perseverance, will make its impress upon the upper lip. It tends to close the mouth firmly and gives a slight fullness to the central portion of the upper lip; but these are *secondary* signs, and are the result of the *firm set* of the lower jaw-bone which always characterizes those with bony chins, who have been very persevering.

To keep a "stiff upper lip" is an oft-repeated caution to those who might be capable of breaking down from the position assumed. The complexity of the muscles about the mouth, lips, and jaws renders it impossible for any of the features to act with or impress their movements upon one set of muscles alone; hence, the co-operation of the muscles of the upper lip with those of the lower lip and lower jaw affects the expression of all these features in varying degrees, and thus stamps the result of their action upon *all* the features in close proximity.

The locality of the sign for Self-esteem can be proven by observation of those who exhibit a long upper lip, and that of Firmness can be also known by comparison of the behavior of those with a long chin with those who exhibit a short or receding chin.

Self-esteem is a force which is a sort of will-power, inasmuch as it holds the individual to a certain consistent course of conduct, and this is of itself *persistent*, a secondary sort of firmness, and often mistaken for it by those unaccustomed to analyze closely the components of human character.

Nearly all of the traits have several phases of action, and these must be comprehended by those who would give accurate delineations of character.

For good examples of a normal or balanced degree of Self-esteem, examine the portraits of Thomas Jefferson, Charles Bradlaw, von Bulow, Horatio Seymour, Sir Rowland Hill, Hon. William M. Evarts, Lord Brougham, Zachary Taylor, Franklin Pierce, General Domingues, Dom Pedro of Brazil, Lord Randolph Churchill, Hon. John Marshall, Fletcher Harper, and the Duchess of Marlborough.

THE AMATIVE UPPER LIP.

If the centre of the upper lip present an unusual degree of fullness, redness, and moisture, the sentiment of Amativeness is excessive. Where there is a good brain system in combination with this indication we may expect to find creative talent of some sort; either a talent for acting or painting, for poetry, or for some other form of art. An *excessive* development of the centre of the upper lip is to be found in the face of Ellen Terry, Nat Goodwin, Madame Modjeska, Oscar Wilde, Bernhardt, Annie Louise Carey, Eugènie, Pappenheim, Lucca, Albani, Trebelli; quite full in Mrs. A. D. T. Whitney, Elizabeth Stuart Phelps, T. B. Aldrich, Charles Egbert Craddock, and in the upper lip of the eminent painters

Raphael, Vandyck, and thousands of others well known to fame as original *creative* minds. All these have an excellent brain in combination.

If the centre of the upper lip is excessively full and moist, the red portion seems loose and showing horizontal wrinkles, the inner side turns outward in laughing, and the *animal phase* of sex-love is dominant. This peculiarity is observed in the faces of coarse, low characters. It is not accompanied by any large development of the brain system, but may co-exist with a large development of the muscles, and is hence found among horse-jockeys, low comic actors and singers, and other specimens of low-class, *imitative characters.* Imitation, it may be remarked, is a degree lower than creation.

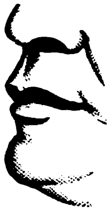
FIG. 178.
HENRY WARD BEECHER.
(AMATIVE UPPER LIP.)

Where the upper lip exhibits an excessive development of the red portion and there is a corresponding lack of intellect or moral power, it becomes by this unbalanced condition a *criminal feature*, and those thus characterized pursue a licentious career and are among those who commit assaults upon helpless women and children, and who are guilty of sins against chastity and decency. They really constitute a *morbid variety* in this direction. The faces of many professional criminals disclose great disproportion between the size of the upper and lower lips, indicating small benevolence or sympathy and inordinate amativeness of the criminal type.

There are many grades of power of this faculty, ranging all the way from undevelopment to talent and genius. The grade of *quality* of the subject should always be taken into account in summing up the character; also the amount and quality of the brain system. It is by the faculties in *combination* with Amativeness that we decide as to its method of action and its power of control,—whether it be normal in action, or exaggerated to an immoral degree.

THE NORMAL UPPER LIP.

In all well-balanced characters the colored portion of the centre of the upper lip will be of a decided red or pink color, moderately full, moist, and firm, and in finely-organized subjects the texture of the skin will be very fine. These appearances indicate a *normal* degree of Amativeness and a normal development of the reproductive system, as well as a balanced degree of Love of Young. The form which a normal

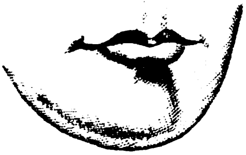
FIG. 179.—NORMAL UPPER LIP.

sign for Amativeness assumes is a slight *curve* on the upper edge of the red portion of the lip and a rounding curve outwardly.

An upper lip to be normal must in length present harmony of proportion; neither too long nor too short; neither too thick nor too thin at the sign for Amativeness. In short, it must present a well-balanced form and size, such as would appear harmonious to those having a good share of the faculty of Proportion. In a small, narrow face the width would, of course, be less than in a large, broad face,—in accordance with the laws of Proportion.

THE MIRTHFUL UPPER LIP.

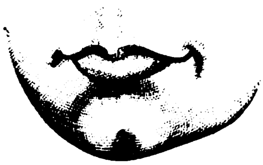

Fig. 180.—COUNT CAVOUR.

The signs for Mirthfulness in the human face are so numerous that one may find them in every feature in the face except in the nose. This organ being pre-eminently the indicator of thought, we shall fail to find the signs for any of the softer emotions in its *outlines*. The nostrils, it is true, co-operate in the emotions of surprise, rage, revenge, jealousy, and also in mirthfulness to a degree, but are not particularly disturbed by laughter, for the reason that this act opens the mouth, whereas all of the other emotions, except surprise, close the mouth, and thus doubly expand the nostrils.

Mirthfulness in the upper lip is shown by an upward curving, adjoining and externally to the sign for Love of Young. It is properly the aid and ready assistant to that trait, and these two faculties are always seen in combination. When one is large, the other is always well defined.

The sign for Mirthfulness in the upper lip sets a sign of beauty in the face. It also assists in giving an arch and piquant expression to the mouth in conversation and in laughter, and helps to form the third curve of the upper lip. The upper lip of the most noted comic actors and actresses disclose this sign and its accompanying expression, which expression is assisted by the signs of Mirthfulness in the eyes and other features, and all combined add a charm to the comicalities of such actresses as Lotta, Mrs. John Wood, Croizette, Aimèè, Coquelin, and Nell Gwynne.

It is also well marked in humorous writers. Observe the portraits of Hume, Voltaire, Madame de Staël, Oliver Wendell Holmes, Lucy Larcom, T. B. Aldrich, Phœbe Cary, S. S. Cox, Bret Harte, Col. Robert G. Ingersoll.

Among artists it is large,—Hogarth; "Cham," the celebrated French caricaturist, and Thomas Nast. Observe, also, the physiognomies of Charles James Fox, Henry Ward Beecher, and Daniel

Dougherty (orators), who are celebrated for humorous, witty language.

Short upper lips are more mirthful than long ones, for a short upper lip pre-supposes an imitative character instead of a sedately individualized one, such as large Self-esteem creates. Most especially is the short lip indicative of Mirthfulness if the lip shows signs of Love of Young and the cheeks indicate large Approbativeness, as is usually the case with deficient Self-esteem.

All of the *imitative* classes of artists, actors, and many writers of humorous and witty works, exhibit a short upper lip somewhat curved in the centre.

THE VOICE.

The elements, features, and factors concerned in the production of the human voice and language are shown externally by the mouth, lips, nose, frontal sinus, cheeks, throat, chest, and abdomen. Internally the organs of speech are the diaphragm, the lungs, the larynx, the pharynx, the tongue, the soft palate or roof of the mouth, the nostrils, the frontal sinus, the walls of the cheeks, the teeth, and lips.

The voice is related to the ear, and this feature indicates, by its shape, size, and quality, the capacity of the voice, and also reveals the *personal* capacities of each individual in regard to his ability for speaking or singing. A full description of the ear will be given later in this chapter.

Further analysis of the active voice is had in the analysis of the faculties of "Music" and "Language" in the preceding chapter.

Knowledge of human character is derived mainly from three sources. The most important sources from whence we derive this knowledge are the face, the hand, and the voice; these three parts of the organism epitomize the entire personality, each in a different manner and in varying grades. The hand tells of some things which the face does not; it also *corroborates* what is seen in the countenance. The voice gives us a clue to character which the secretive individual thinks he hides.

The *intensity* of *emotion* is best expressed by the voice; the *power* of *action* by the hand. The capacity for thought is shown by the face, but principally in the outlines of the nose and forehead. Thus, each of these features must be examined in order to render a just delineation of character. There are other aids to the comprehension of character not so directly decisive as those above named, yet very useful as corroborative of other indications. Among these may be mentioned the *movement* in walking, the gestures, the habitual attitude, the set or position of the shoulders, the position of the feet, also the hand-writing and hand-shaking. Some of these indications are shown by forms concreted, as in the outlines of the shoulders, nose, and forehead; or they are modes of motion, and arise from the movements of features; concrete forms translated into abstract forms; thus revealing characteristics by motion. One law of form shows us that the motion made by a body through space will bear direct relation to the form of the body thus moved; hence the movement of an upright and square man in walking are just the opposite to that of an angular or of a sneakish person.

Every movement whatsoever is indicative of the character, and can be comprehended by applying to it the basic laws of *form*.

The voice being a mode of motion will now be analyzed. It is as *vital* a *motion* as are the movements of the hands or body, and gives expression to the *interior states of mind and emotions* through its relations to the muscular system, and to the sympathetic or ganglionic and nervous mechanism.

Although the voice cannot be termed a "feature" in the sense that other physiognomic features are spoken of, yet as the mouth, lips, nose, and cheeks are all concerned in the production of vocality, and as the voice is one of the most important factors in the exposition of character, both mental and physiological, and as sound produces abstract forms, it would be a serious omission were I to ignore this most important department of human nature.

The hand has been aptly termed the "second face." The voice might, with equal justice, be termed the second person or the "double" of the material individual; for its tones, like the gestures of the hand, express almost every faculty of the mind. Were people sufficiently observant, and were the auditory apparatus of the majority of the civilized human family of *normal* power and *construction*, there would be no hindrance to the comprehension by the masses of *all the fine gradations* of character which are expressed by the tones of the voice alone.

Civilization produces so many disorders and imperfections of the vocal and auditory apparatus as to make perfect vocality quite as rare as perfect hearing or perfect sight; yet the average intelligence is probably equal to the grade of development of the sense-organs and mental powers as now developed.

The voice reveals the *dominant* system or systems of the organism, and thus the observer can learn by the first sounds emitted to which class of mind the speaker belongs, and thus he can assign to each his own class of *form*. It unfolds also the inherited degree of intelligence, as well as the acquired or cultivated condi tion. By it one can learn the grade of *temper*, whether mild, amiable, cold, indifferent, sharp, high-strung, spiteful, revengeful, malicious, slow, or stupid. It also announces *sexual states*, and tells with certainty which part of the body *one lives the most in*, for the glutton has an entirely different voice from the sensualist, and both differ from the loving and affectionate voice of purity and moderation. Independence and servility, clearness of mind and confusion of ideas, nobility and lowness, energy and dullness, force and feebleness, courage and timidity, with all the varying degrees of each of these traits, are surely indicated by the voice. It needs only *close observation* and *keen comparison* to grade and classify each one of these several types.

Lavater, the greatest of physiognomical observers, was so profoundly impressed with this idea that he tells us that

> If the student have a good ear he will certainly acquire the knowledge of temperament, character, and what class the forehead belongs to, by the voice.

This observation is scientifically correct, for sound and form stand in the most intimate and direct relation to each other.

I have shown in the description of the faculties of "Language" and "Music," Chapter II, the essential forms and shapes of the mouth, nose, and face, for the production of musical, conversational, and oratorical tones, but in order to go into the analysis of tone as a revelator of *individual character* the *forms of the body* must in a measure be understood, for the bodily shape has much to do with the *quality* of tone and vocality, aside from the construction of the vocal cords, larynx, soft palate, mouth, cheeks, etc.

An individual in whom the thoracic system is dominant speaks with a clear, sonorous tone, and uses the expulsory muscles of the diaphragm in emitting sounds. Now, this tone is always accompanied by a *receding forehead*, for the dominance of the thorax creates sharply-defined outlines and causes the forehead to recede. There are other causes more occult and abstruse than this, but I have no space here to go into this department of physiognomy. Such is the fact, however, as shown by all those whose foreheads recede, provided they have a normal degree of health when the observation is made.

The voices of those in whom the vegetative system is dominant speak in a peculiar throaty, thick tone, unless under the influence of anger, when they assume a shrill, senseless sort of sound; thus this voice tells us what sort of character we have to deal with. Even in the dark this voice would inform the listener who had studied this work that the forehead of this person was low, circular in outline, and inclined to the perpendicular in profile, and that he possessed all the traits and peculiarities belonging to the vegetative individual.

The voices of those in whom the muscular system dominates are of two general kinds: those with round muscles speak in a rich, sonorous tone, and convey to us the form given in the description of this system; those with the flat muscles develop a finer, softer tone, with less roundness, richness, and power. Where the muscular system is dominant, the forehead will be perpendicular in profile; whether it be square or round depends upon the sort of bone in combination. Where the brain system dominates, the voice is apt to be weak, yet decided, somewhat sharp, clear, and not energetic, except under excitement, when it becomes sharp and shrill.

As a rule, the clearer the voice, the clearer the mind; the sweeter the voice, the more affectionate its possessor. Sensitiveness is indicated by the voice, and exhibited by a rather mild and slow way of speaking. Some voices are "too sweet to be wholesome;" such voices are proofs of insincerity, deceit, or secretiveness. One of the most belligerent women I ever met had assumed a tone which was ludicrous in its *softened affectation*; her entire body and head as well were of the most pronounced bull-dog, fighting build. The most casual observer would have known that her voice and face did not correspond.

Rough, *harsh* voices denote strong, harsh characters. Affected speech reveals the sly, shallow, or conceited character. Indeed, all affectations are assumed to cover defects.

Rich, *full*, and *rounded* voices tell us that some form of art-talent is present, and that the social gifts are well developed.

Lisping tones betray a want of good balanced judgment. Such tones are *infantile* in their nature, and if found beyond the age of childhood are to be placed in the category of relatively enfeebled mentality or morality. Lisping in an adult is usually accompanied with untruthfulness or weak judgment.

My experience of inherited imperfections of the organs of speech leads me to the conclusion that they are indicative of mental or moral defects. Tongue-tied, lisping, stammering, hesitating speech certainly denotes enfeebled intellect or deficient moral power. In some instances, hesitation and unconscious repetition is exhibited by those who have received *nervous shocks*, and also by those *enfeebled by age*, and these cases are proof positive of the above assertion, for these classes have become *enfeebled by age and accident*. Where these same defects are *congenital* the accompanying mental or moral defect will be apparent upon examination of the physiognomy.

It is a law of evolution, as well as of physiognomy, that when undeveloped, immature, or infantile features or indications are exhibited in the adult, the trait or faculty which is represented by such defective feature or function is in an undeveloped or infantoid state. No law can be sounder than this. No phenomena easier to demonstrate. The chief obstacle toward a recognition of the association of mental faculty with physical function is found in the existent belief in the minds of the majority that mind and body are two separate entities; whereas, all research proves that they are a *unity*, and a very close and complex one, too,—so close and intimate that no one can tell where mind ends and the physical begins. If we are to ever realize the fact that form is the outward expression of interior states and shapes, we must certainly believe that congenitally-deformed or imperfect conditions of the mental mechanism which is associated with it, and of which it is the exponent, are revealed by departures from the normal standard of form.

The voice is mainly exercised by the aid of the muscular, fibroid, and cartilaginous system, hence belongs to the motive system. The tongue is one of the chief organs of speech, and therefore part of the motive or muscular apparatus. The lips are instrumental in the production of tone. The *line* of the mouth is another great factor, and this is formed and shaped by the *orbicularis oris*, a circular *muscle* which extends around the mouth. The roof of the mouth, or soft palate, is an effective accessory to volume and clearness. It is partly cartilaginous and partly osseous. It is *arched*, and the higher and broader the arch the better is it adapted to produce sonorous tones. One of the chief differences between the mouth of the ape and orang-outang and that of man is found in the formation of the roof of the mouth. This peculiarity of structure has been noted by many observers, and the learned Dr. Cross writes of this appearance thus:—

> It is in virtue of this hollow in the roof of the mouth that man can mold off his thought into words, and it is from want of a sufficient hollow in the roof of the mouth that the ruder part of mankind and many idiots have deficient articulation. The inability of the orang-outang to speak does not arise from laryngeal defect, for he can drive the voice through the mouth, but from want of a sufficient *concavity* in the roof of the mouth, and from want of a sufficient brain. Thus, Nature did not endow her creatures with speech until they had acquired brains to think and coolness to arrange their thoughts. The more deep, ample, and regular this concavity, so that the tongue may have freedom to perform its innumerable and quick evolutions, the more distinct must be the speech, and the more cool, steady, and persevering must be the animal appetites.*

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*An Attempt to Establish Physiognomy on Scientific Principles, J. Cross, M.D., pp. 190, 191.

This quotation is pregnant with meaning, and shows that intellect and oral capacity stand in direct relationship with each other, and in this scientific truth we have the foundation for the claim I make that all congenital imperfections or defects of the mouth and lips are *indicative of defective or enfeebled mentality or morality*, and also that the basic laws of Form, when applied to the external forms of the mouth, lips, and cheeks, are indisputable indications of mental, moral, and physiological powers and weaknesses, according to the appearances observed. The various defects in speech, such as lisping, hesitancy, tongue-tied, or thickness of expression, as if the mouth were full of saliva, are indications of defects and peculiarities which must certainly be associated with an intellect which partakes of these conditions, and that is, in correspondence and harmony with them.

An eminent teacher of elocution, Prof. Alfred McLeod, who has exceptional opportunities for observing impediments in the speech of large numbers of children, has given us some most instructive ideas and statistics in regard to the imperfect articulation of school-children; his observations have led him to see the connection between mental deficiencies and defective speech. He observes:—

> When we come to consider the number of positions and motions of the vocal apparatus required in speech, and the exquisite delicacy of these operations, we cease to wonder at the prevalence of defective utterance. But when we learn how *dependent speech is on mental processes*, on mental associations and on volition, one rather wonders that impediments and defects are not more common.*

Among the impediments to perfect articulation, he cites the following:—

> Defective hearing, or inability to "catch" the sound of certain letters.

This defect is like that of color-blindness, where the subject is unable to distinguish more than two or three colors. Beyond these he can make no distinction. Many persons omit or drop certain letters and parts of words through inability of the hearing apparatus to perceive them. Others have the same habit through carelessness. Other impediments of speech arise from malformation, among which Professor McLeod mentions the following: "Cleft palate, high palate, palate resting upon the tongue, hare-lip, teeth resting upon the tongue, double row of teeth in one jaw, enlarged tonsils, tumor on the base of the tongue, stammering, hesitation, repetition;" to which he might have added lisping and tongue-tied articulation. This observer adds the highly-interesting information that the different percentage between the sexes is very great; the percentage of defective articulation of boys is 4.21, as compared to 1.17 in girls! This wide discrepancy of the relative power of the two sexes in regard to the perfection or development of the sense of hearing and speaking is matched by the statistical knowledge which we have in regard to the relative ability of the two sexes to distinguish colors. The discrepancy existing between the male and female sexes is in this department very much greater and almost beyond belief. I have given the estimates in the part devoted to "Color," and, taken in this connection, it would be interesting to learn the reason *why* the sense organs of the male should be so *much less developed and less perfect congenitally* than the same faculties and sense organs in the female sex.

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* The Voice, Alfred McLeod. Aberdeen, January, 1888.

To follow out this line of investigation and seek the results of the numerous observers in every field of research relating to the human faculties would fill a large volume; hence I have only space here to call attention to the fact that, however interesting all such information may be to the student of physiognomy, it must be sought for in the reports and statistical tables of teachers in the several schools, asylums, homes, etc., for the treatment of defectively-organized children and adults.

Another most important field of inquiry is the construction and evolution of Language taken in connection with the evolution of the voice. Max Müller, Prof. William Whitney, and other philologists have written many important works upon these subjects; but here again want of space forbids my pursuing these channels, although they are properly a part of the physiognomical history of man. It is sufficient to say that the voice, as well as the language, of races has developed and perfected in the proportion as their physiology and anatomy have developed and perfected. And this explains much in regard to the congenital defects of the voice and of language which afflict such large numbers of children. In many cases it is a real *atavism* or reversion to the condition of the vocal organs which are observed in those undeveloped races that have not yet arisen to the high grade attained by the most perfected human races. In some instances, as in hare-lip and split-lip, the imperfection arises from incompleteness of the formative process in prenatal life. The junction of the two edges of the upper lip which should have united at the centre remains open until after birth, when a slight surgical operation is required to effect a closure, and this condition creates a more or less defective articulation. The so-called "wolf's jaw" is caused by failure of the upper-jaw processes to adhere in the middle line, in the early stages of fœtal life. This defect of structure leaves "an open passage from the mouth cavity directly into the nasal cavity" (Haeckel). Who can doubt that such serious defects of structure in so important an organ, or rather in two organs, the mouth and nose, should produce corresponding imperfections of the intellect or of moral sense? The fact that this form of imperfection involves the speaking apparatus, and lies near the brain, and makes its impress upon the face should be a signal proof to physiognomists of their effects upon the mental and moral status. I have reason to believe that congenital defects of the hand and feet are correlated with peculiarities of the temper or mental and moral states, but in a relatively less degree than where cerebral organs or facial features are involved. Byron was club-footed, caused, it is said, by his mother's almost insane bursts of anger during his prenatal life. In this connection, speaking of the moral sense, Emerson remarks that "veracity derives from instinct and marks superiority in organization."*

If mind were a separate entity, then the acts of the body would not affect mental conditions, but as physiognomy teaches that the mind and body are a unity, intermingled and interblended in the most complex and subtle manner, so it is apparent that all bodily states affect the mental and moral powers, and *vice versâ*, all mental states affect the bodily organs; hence it is that any facial appearance which is congenitally abnormal or defective points to abnormal or imperfect conditions of the particular faculty of which that imperfect feature is representative. The organs of speech are indicative of both mental and moral powers, and these must therefore be enfeebled by defects of any part of the organs of voice, speech, and articulation.

Every slight peculiarity of speech betrays some individual characteristic of the reflective faculty. *Excessive softness* betokens hypocrisy and is the natural companion of a too-smooth face.

Very harsh voices belong to the rude and unfeeling. In this connection I may mention that I have observed a peculiarly harsh or coarse voice in those who were refined and intelligent, but who were foredoomed to bronchitis or consumption. In these cases a peculiar construction of the lungs and larynx produces the voice which I term the "consumptive voice." I have noticed this in the voices of those who were apparently in normal health, yet who did not have any other symptom of their coming doom, and this was unknown to them. The voice was inherited along with the peculiar construction of lungs and larynx which produced it.

As voices cannot be described accurately by the pen, it is impossible to give the reader an exact understanding of these differences. Now, if it is possible to read one trait of character in one instance by one peculiarity of the voice, it is logical to infer that all mental states and grades can be also thus read by the tones of the voices.

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* English Traits, R. W. Emerson, p. 120.

Many eminent observers have remarked the signification of tones. The following is to the point:—

> Words reveal the intellectual state. So we have the incisive and compact utterance of the clear thinker in contrast to the intellectual status of the wordy bankrupt. Voice reveals the sensitive state. None fail to appreciate the clear, honest voice of health and refinement, the mincing fop, the muddy vocality of vice. Inflections reveal the moral state. The positive inflection of the man of *conviction*, the circumflex of a double dealer, the mechanical and nasal *whine* of the hypocrite are interpreted by all.*

It is indisputable that all are spontaneously and unconsciously influenced by the tone, pitch, and quality of the voices of those with whom they enter into conversation, and they as unconsciously act upon the knowledge which those voices reveal to them of the mentality and general character of those with whom they converse. Some voices soothe, while others irritate; others still fairly *exasperate* one. Let a person with a rich voice, full of sympathy and intelligence, approach a company, and as soon as the *tones* of that voice are heard all are at once attentive, because its intonations announce the *power* of the individual to whom it belongs, and this intelligence is conveyed to the listeners in the most instantaneous and subtle manner, although the speaker may have as yet only uttered the commonplaces of salutation. Such voices *command* attention and respect wherever heard. Now, if intelligent, sympathetic voices involuntarily produce such decided effects upon those who hear them, is it not reasonable to suppose that voices of the opposite class convey an equal amount of intelligence as to their owner's mental and moral calibre? Let one with a sharp, thin, nasal twang, on a high-pitched key, endeavor to be heard, and there will be an immediate attempt of the company to retire to distant parts of the premises. Such voices cannot *hold* together any number of people for long, neither can such a voice produce other than a disagreeable impression upon the listeners, no matter how interesting the subject under consideration may be.

Sound creates *form* as it moves through the air, and, in accordance with the perfection of the instruments producing it, it will make an agreeable and intelligent or a disagreeable impression upon the listener. Thus voice is shown to be a real and tangible part of the individuality, and so much a part of the physiognomy that it cannot be dispensed with in the delineation of character. I consider a fine conversational voice a great charm. It is more rare in America than a fine singing voice. There are several causes for this. In the first place Americans are relatively less muscular than the Europeans. They are also more nervous. Adding these two causes together, they produce the thin, high-pitched nasal tones which are so distinctly American. This national peculiarity could be in a great measure *remedied* by parents and teachers were they to give *slight attention* to the pitch of the voice in childhood, and thus *place* the child's voice upon an agreeable key while it is yet unformed and easily modulated. The first days of the child in school should be devoted to teaching it how to breathe properly, and how to pitch its voice rightly in speaking and reading. No mere book-learning should take precedence of these two most important matters. General development of the muscles and development of the lungs by breathing exercises, together with a properly-pitched voice, are studies of great importance to every child, for they conduce to health, long life, and certainly to beauty of form, attitude, speech, and physiognomical expression. Whatever aids normal exercise of the larynx, mouth, and lips assists beauty of facial expression. This can be easily proven by observing and comparing the dreadful contortions of the mouth and gasping for breath of an improperly-trained singer, with one who has had the best instruction. The latter exhibits lovely expressions of the mouth, and sends forth the loudest tones with ease and freedom. I have seen some faces, which in repose were very beautiful, completely distorted by the reckless or untrained movements of the muscles in talking and laughing. This was the result of bad habits of speaking, and could have been easily remedied by practicing before a mirror, as do many fine actors and elocutionists.

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* Vocal and Action Language, E. N. Kirby, p. 83. Boston, 1885.

Unconscious imitation is often the cause of the ugly movements observed in some faces. Many children contract strabismus by playing with cross-eyed children. The unconscious imitations by children of all sorts of abnormal muscular movements observed in those about them teach us two important things. One is that children should not be permitted to play with those afflicted with cross-eyes, Saint Vitus' dance, or jerking and twitching of the muscles, and trembling of the eye or eyelids, for in most cases they are *imitated spontaneously*, without special design on the part of the child.

The second lesson to be derived from this marked aptness of the muscles for unconscious imitation teaches parents with what slight effort children can be trained to perform a variety of things tending to a knowledge of art and science, by the use of simple objects, such as are used in the kindergartens, without at all taxing the intellect. The movements of the child's hand in piano-playing are among the harmless methods of exercising the muscles without at all overtaxing the brain, and children may be taught this or the use of any other instrument, such as the sewing-machine, before being taught to read.

Elocution is a fine study for young children, for the breathing exercises and light gymnastics practiced by the Delsarte system in particular not only develop the voice, but give grace and suppleness to all the limbs. The effect of elocutionary exercises upon the intellect is wonderfully strengthening to the brain as well as to the body. Instead of giving a child *books* to study to improve its thinking powers, a course of lessons in elocution would attain that object with more certainty. When I am asked to prescribe treatment for a dull child I invariably order gymnastics and elocutionary exercises, and the same course may be pursued with good effect by the child whose *precocity* of intellect threatens early decline. It is to be understood, of course, that a *judicious* use of *these* hygienics must be made under charge of a competent teacher.

The voice is capable of emitting sound independent of the organs of speech—the tongue, the lips, cheeks, and teeth; hence by this division of functions it must be apparent that the voice alone would indicate some traits distinct from those revealed by the *articulate* powers. This is really the case, and this analysis of powers shows how the voice is an indicator of vital, interior, moral, and physical conditions; while the organs of speech—the lips, tongue, teeth, etc., together with their manner of articulating—belong by pre-eminence to the mental powers, with a subdominance of the moral and physiological states. Man could use the voice were he deprived of the power of articulating words, and use it with great power too, if he sought to develop it by proper exercise. The voice proceeds from the lungs, sustained by the muscles of the diaphragm, and thus the *tone* of the voice reveals the *inner* man—his amount of vitality, his bodily structure; hence the amount of energy, clearness, or feebleness of mind and body. This is well demonstrated by comparison of the tones of the different races of civilized men with their bodily structure. The French speak more from the forward part of their mouth, with the teeth, tongue, and lips. The Italian speaks more from the middle of the mouth and the lips, while "the Englishman speaks with his whole body. His elocution is stomachic, as the American's is labial."* I think Emerson should have said that the

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* English Traits, R. W. Emerson, p. 108.

American's is nasal, for in comparison with other nations we find that the majority of our countrymen and women pitch the voice so as to speak either in head tones or nasal tones; rarely do they use the chest tones. I am convinced the majority could develop fine chest tones were they trained to use them in childhood. The English are very muscular, and their lungs are relatively broad, and herein is the basis of a powerful and sonorous voice. In accordance with this broad, muscular build, the larynx must also be large and strong, and thus we have the foundation for those rich and beautifully-modulated voices heard in the conversation of most English people. The Englishman's voice reveals his sturdy, hearty, positive, sincere mind, as well as his compact, healthy, hardy body. The French speech is truly Celtic; unlike the Englishmen, they use the least energetic manner of speaking, *i.e.*, with the forward part of the mouth, and the lips, and also nasal tones. This method is more indicative of *surface feeling;* it is not as *interior*, vital, and positive as that of the English. It is for this reason that the French supplement their language with such an infinity of gestures, and the effect of gestures is to call attention away from the body, hence speech which requires many gestures to assist its explanation is never as solid, positive, vital, and sincere as a language that contains in its essence all these qualities. Now, the language of a race belongs to and is in harmony with the grade of development to which the race has attained. And the English language, in its construction, is like the Anglo-Saxon races in their bodily build, and its peculiar grade of development harmonizes with their intellectual and moral status as well; and in a certain degree the language suits the mind and bodily conformation of the Anglo-American people, who should endeavor to harmonize more completely with the genius of the English tongue by cultivating the chest tones.

The American method of using the voice is in harmony with their use of the language, for, unlike the English, they use the adjective portion most, whereas the English use more the Saxon part, or noun element; but the subtleties of this subject are, perhaps, too complex for a work intended for popular reading. The science of physiognomy has its occult and esoteric department, *like all things in Nature*, but this I have endeavored to hold in abeyance in writing this work, for that which is most interior, hidden, and abstruse would seem to many who do not *think profoundly* to be fanciful, superstitious, or the effect of mere impractical imagination. I should wish never to have my ideas classified upon either of those bases, yet the fact remains that Nature has a secret arcana into which only those who have mastered her external phenomena can hope to penetrate. The voice comes from the interior of the body, and is, therefore, one of the guides to its most interior meanings, and this is why it is so prolific and many-sided in its revelations of the most interior, vital, moral, and mental states. In the translation of these subtle tones, as in the recognition of all of Nature's finer manifestations, the greatest degree of sensitiveness is required. Gross beings would fail entirely in comprehending them.

Let the reader by all means study voices, compare tones with the shape of the forehead, the nose, mouth, lips, and ear. He will observe that the faces of all who emit powerful tones, either in speaking or singing, have the lower third of the face relatively long and the cheeks round and the lips full. The forehead, too, of those who possess sonorous voices is different in shape from those whose voices are faint and low. The frontal sinus in all great speakers is large, thus giving the required size of this cavity for producing sonorous reverberations. In order to attain the greatest effects from any instrument the mechanism involved must be the most perfect; hence, in deciding upon one's ability as a speaker we must have in consideration the *form* of the *nose*, *forehead*, *chin*, *cheeks, and lips, and the line of closure of the mouth.* The eyes assist in this quest, for where they are large and *full* the voice is more apt to be strong and rich, and the owner inclined to excessive and fluent use of the faculty of Language.

THE MOUTH.

THE LINE OF CLOSURE.

The line of closure of the mouth is highly significant of character, taken either in combination with the shape of the lips or without reference to them. The line of closure, like all of the features, has its foundation in the curve. This is its primitive form. A feature which is intended for so many purposes as is the mouth must have the ability to execute curves, to form a circle, when necessary; hence, it is a most *flexible* feature. Now, in the

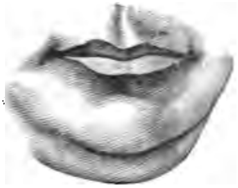
FIG. 181.—NORMAL LINE.

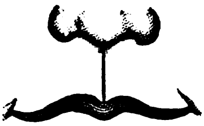
FIG. 182.—NORMAL MARGIN.

most perfected mouths we find that *the line of closure* describes straight, or nearly straight forms, for the mouth, like the larynx, "must be able to construct every gradation of form from the line of fissure to the complete circle."

In the *upper edge* of the red portion of the *upper* lip, we find *three* well-defined curves (see Fig. 181, normal outline of margin), and in the lower edge of the colored portion of the lower lip there are generally in artistic mouths *three* slight curves or undulations (Fig. 182), and in the lower lip of profound thinkers this lower line is, as a rule, formed by a single curve extending from one corner of the mouth to the other. (See Figs. 186 and 187.)

In analyzing a mouth there are certain indications which must be examined if we wish to gain an accurate *knowledge* of that department of character which is represented by the mouth. Lavater has given several rules for this purpose, and I cannot do better than to translate and insert them. He remarks on this point:—

> Examine carefully in every mouth:
>
> (*a*) The two lips properly so-called, *i.e.*, the upper lip and the lower lip separately;
>
> (*b*) The line which is the result of their junction;
>
> (*c*) The centre of the upper lip;
>
> (*d*) The centre of the lower lip, each of these parts in particular;
>
> (*e*) The base of the middle line;
>
> (*f*) Finally, the corners which terminate that line, and where they leave off at each side, and by which it is shaded off. Without these distinctions it is impossible either to draw a mouth well or to form a correct judgment of it.*

What Lavater terms "the base of the middle line" is the scallop shape formed by the downward projection of the upper lip at the place where I have located signs for Love of Young; for this scallop-shaped line he had no name, as he gave *no specific names for facial signs.*

In infancy the line of closure is more curved than in the adult stage. In the mouths of orators and in those of profound thinkers, the line of junction is usually straight, or nearly so. The curved form accords well with the soft flexibility of immaturity, and when the line of junction presents three slight curves or undulations in the adult stage we find that the artistic sense is the dominant one, and, as the artistic is not so highly a developed sense as the scientific, so in the most developed scientists and inventors the line of closure is the more nearly *straight.* These are subtle distinctions which will grow upon the discriminating observer, and will by continued observation prove (although the indications are minute) that the distinctions are great, and the signification in entire accord with the basic laws of Form.

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* L'Art de Connaitre les Hommes par la Physiognomie, p. 190. Paris, 1820.

Infancy is the age of curves. We shall, therefore, find in the artistic classes (who are not so highly developed as the scientific and mechanical classes) an abundance of curves in and about the mouth and lips.

THE GRAMINIVOROUS MOUTH.

The mouths and faces of those whose taste inclines more to a grain and fruit diet than to meat-eating are usually of the form observed in the grain-eating animals. Their mouths are small, with delicately-formed lips, relatively narrow lower jaw, and thin cheeks. The disposition of this class is peaceable, and their passions are not easily aroused. They are lacking in physical courage and expend all their energies upon useful industries. They are never leaders and commanders, but follow where others with more force lead the way.

The sheep, the horse, the deer, and other grain-eating animals present the same facial form and similar mental and moral characteristics.

THE SINGING MOUTH.

The line of closure of the singing mouth is characterized generally by the straight form, with full, red, protrusive lips. Almost all singers possess a tolerably wide mouth. Rarely is it very small; some even being quite wide, as is the case with Madame Christine Nilsson, Frau Materna, Sofia Scalchi, Emma Thursby, Annie Louise Cary, Albani, Valleria, Geistinger, Madame Sainton-Dolby, Campanini, Gatty, Huntley, and others. One great point of difference between the singing mouth and the meditative mouth is that the latter discloses less of the red portion of the lips, which are not usually so full as the former. It is impossible to do justice to the singing mouth without at the same time giving a description of the accessory physiognomical signs, as the mouth alone forms only a portion of the mechanism concerned in the production of musical sounds. In order to exhibit any form of art the mechanism suited to the purpose must first be had in the bodily organization. Painters must possess flexible muscles and a fine endowment of color. Sculptors must have a good mechanical mind, along with artistic tastes and imagination. The actor must, like the

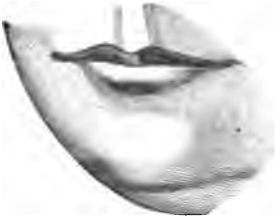

FIG. 183.
MISS EMMA THURSBY.

singer, possess flexibility and an excessively emotional and sensitive organism. The singer, in order to produce volume, must have *space*—area—in the construction of the larger mouth, nose, cheeks, and frontal sinuses.

The most decided facial signs of a singer are, then, a short, round, muscular nose, full cheeks, length of the face from the nostril to the point of the chin, length downward and forward of the chin, and height of the roof of the mouth. This formation gives the right construction for the production of loud, sonorous tones.

The *quality* of the sound depends upon the quality of the muscles and cartilages of the vocal cords and larynx, and of the sensitiveness of the auditory nerves. The ears of all good singers are rounding, and exhibit width and depth of the cavity of the auricle or shell of the external ear, together "with a large pendent lobule." For further descriptions see the faculty of "Music," in Chapter II.

THE ARTISTIC MOUTH.

There are manifold forms and sizes found among artistic mouths; yet all without exception are conspicuously *curved* in both lips, and with a serpentine line of closure. As a rule, the lips are full and more or less protrusive, showing a bright-red color.

As under the term "artistic" I include a great variety of callings which all demand the supremacy of muscle for their exercise, so it may be well to state that the above form of mouth with many variations can be found in the physiognomies of painters, poets, singers, athletes, actors, etc. Each of these classes of artists have, however, some slight differences which will be examined seriatim, yet all possess more or less of the domestic, sentimental, emotional, and sympathetic faculties, for these are the bases of their arts, and must have their signs in and about the mouth and lips. Of course, one expects to find individual peculiarities of structure in the singing mouth that are not essential to the poet or painter; yet all have many of the emotional traits in common.

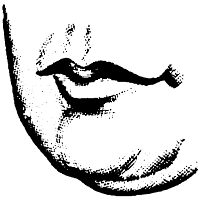
FIG. 184.
ROSA BONHEUR.

THE CONVERSATIONAL MOUTH.

All good conversationists exhibit in the formation of the lips and mouth several signs in common. The line of closure is wide, or at least moderately so; straight, also, with full, red, moist lips, in which the colored part is quite distinct. These lips abound in curves. Witty, mirthful talkers have the outer corners of the upper lip *curved upward*, while dimples play about the corners of the mouth and cheeks. Indeed, in some witty, mirthful faces I have observed slight dimples in various parts of the chin and cheeks while the subject was engaged in conversation of an amusing nature. Voltaire, Sterne, and Samuel S. Cox are excellent examples of this mouth.

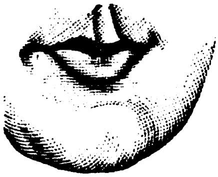
FIG. 185.
JEAN JAQUES ROUSSEAU.
(CONVERSATIONAL MOUTH.)

The following-named persons exhibit various forms of the conversational mouth: Horatio Seymour, Thomas Moore, Oscar Wilde, Oliver Wendell Holmes, Henry D. Thoreau, Sir John Lubbock, Harriet Martineau, T. B. Macaulay, William E. Dodge, Count Andrassy, Franz Liszt, Lady Blessington, Richard Porson, Buffon, Cuvier, Faraday, Johanna Baillie, Thomas Arnold, D.D., Ida Pfeiffer, Prof. Richard Owen, and Harriet Beecher Stowe.

There is a wide difference between conversation and mere talking. Fluency is not conversation; neither can loquacity be ranked as such. The mouths of vulgar, loquacious gabblers are exaggerated forms of the conversational mouth. Their lips are full, coarse, protrusive, and sensual-looking; their chief lingual characteristics are fluency, coarseness, and absence of good sense. This class become horse-jockeys, bar-room oracles, patent-medicine venders, peripatetic "professors" of hair-dye and corn-plasters, and "cheap John" auctioneers. When they talk and harangue their audiences their lips are so loose and flabby and there is so much of them that it appears often as though part of their lips would escape. Their language is of the same quality and quantity as their lips—coarse and plenty of it.

THE ORATORICAL MOUTH.

If the mouths of all great orators are examined we shall find that they invariably show the line of closure to be straight, horizontal, and wide; the lips full, red, protrusive, and moist, with relative length from the nostrils to the point of the chin. This affords space for volume.

To make a practical test of this foregoing statement examine the portraits of John C. Calhoun, Henry Clay, Starr King, John Adams, Charles James Fox, Patrick Henri, Comte de Mirabeau, Edmund Burke, Abby Kelley Foster, Mary Livermore, or any other eloquent speaker, and these signs in

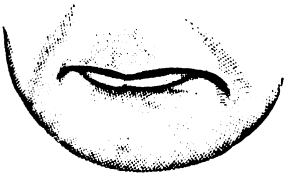
FIG. 186.
JOHN QUINCY ADAMS.

the mouth will be present, together with large, full eyes and a normal degree of color of the eyes, hair, and complexion.

Almost all the great orators have possessed a great deal of color, and this, added to their mental powers, has assisted in creating *fervor* and enthusiasm. A pallid orator and one with very light eyes has never appeared.

One very marked peculiarity of the lower lip of orators is the large size of the sign of "Patriotism," fullness just below the red portion of the lower lip and slightly toward the sides.

The upper lip of the more profound orators—those who are engaged in the attempt to solve the problems of government and other weighty subjects—disclose very little of the colored portion of the upper lip. This peculiarity is seen in the physiognomy of Henry Clay, Daniel Webster, and Calhoun, but in the faces of the humorous, witty, dramatic, story-telling orators the lips show the entire red and are quite protrusive. Observe, for specimens of this kind, the mouths of Henry Ward Beecher and Robert G. Ingersoll; the former was a grand comedian, and the latter is very humorous and witty; Gough also was a fine actor. There are others of this stamp. Such I class among artistic mouths rather than among those who are profound logicians as well as able orators.

THE MEDITATIVE MOUTH.

All physiognomists who have described the mouths of thoughtful persons agree in their description. Lavater, the most accurate of physiognomical observers, tells us that

> A lightly-closed mouth, the dividing line of which is straight, and in which the outer edges are not visible, is a certain indication of a studious mind. When the lips are closed gently and without an effort, and their outline is correct, they indicate a thoughtful, firm, and judicious character.*

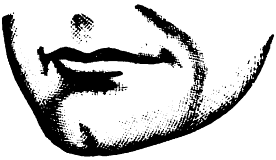
FIG. 187.—SAMUEL HOUSTON.

The mouths of thoughtful people as they advance in life become more and more compressed, so that very little of the *colored portion* of the lips is seen. The red of the upper lip is almost entirely hidden. Profound thinkers live more *interiorly* than do artistic people, such as singers, poets, and painters; hence, the mouths of the former will be closed *firmly* and the red portion of the upper lip particularly will be nearly hidden. The artistic classes live more in the *external*,—in the sensational part of their natures,—and they show the greater part of their lips; their eyes, also, are larger, more alert; their lively movements and gestures and the poise of the head all show that they live mainly in the *outside* of themselves, instead of in the interior—the meditative part of their organism.

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* Translated from "L'Art de Connaître les Hommes par la Physiognomie," p. 192.

The mouths, as well as the eyes and poise of the head, of deep, patient scientists, mechanics, philosophers, and inventors change greatly with advancing age; their lips, which in youth have been full and red and somewhat protrusive, change in after-life, so that the red portion is not nearly as visible; the eyes are lowered and thoughtful, and the head inclines slightly forward and to one side. All these changes have been wrought by *concentrated* and consecutive meditation, and as thought is *interior action*, so the eyes being the avenue through which sensations enter the mind and the mouth the mechanism by which thought is communicated orally, it is logical to infer that the signs of long-continued thought would stamp their impress upon these features.

As the brain is the part of the mind where sensations are translated into consciousness, we shall find that this organ will incline forward, as this position favors reflection, in a manner, by shutting out passing sights; so we shall find this to be the customary attitude of many contemplative minds. See, for example, the portraits of Dr. Abernethy; James Watt, the inventor; Wollaston, eminent physicist; Sir Samuel Romilly, statesman; Sir Joseph Banks, discoverer; Captain Cook, navigator; John Smeaton, civil engineer and inventor; Samuel Johnson and Noah Webster, philologists; Samuel Wesley, divine.

Benjamin Franklin's mouth is the mouth of a thinker and talker combined; so also is that of Daniel Webster. The following-named persons present excellent specimens of the "meditative" mouth: John Dollond, inventor; Lord Mansfield, Chief Justice of England; James Bradley, astronomer; Edmund Halley, astronomer; Lord Shaftesbury, philanthropist and statesman; Sir John Herschel, astronomer; Henri Milne Edwards, scientist; Vasco da Gama, discoverer; Professor Huxley, scientist; Matthew Vassar, successful manufacturer; Elliott C. Cowden, merchant; Daniel Webster, orator and profound reasoner; James B. Eads, engineer; Cyrus W. Field, electrician; Edwin D. Morgan, statesman; ex-President Thiers, and Admiral Napier. All the above-named persons were deep thinkers, and their eyes, mouth, and general facial expression corroborate this characteristic.

THE COMMON-SENSE MOUTH.

A mouth of medium size, with the line of closure straight and horizontal, and the lips showing considerable of the red portion, and of medium fullness, gently closed, and of equal proportions, is certainly indicative of a well-balanced mind. Oliver Cromwell's mouth is an excellent specimen of this type, and is the most beautiful feature in his face. Some characters possess a *talent* of common sense. All their acts appear to be well done, and the best that could be done under the circumstances. This class of people are noted for the *general excellence* of all they undertake rather than for any special gift. Robert Morris, one of the signers of the Declaration of Independence, was one of this class, and his character shone preeminent in all his endeavors. His mouth discloses a well-balanced character. So also do those of Edward Everett, Gerritt Smith, Thomas B. Macaulay, Goldwin Smith, Albert Barnes, Harriet Martineau, Lucretia Mott, and Matthew Vassar, who endowed Vassar College for women.

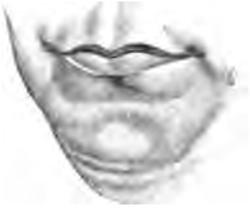
FIG. 188.
BENJAMIN FRANKLIN.

THE ORDERLY MOUTH.

This variety of the mouth is most met with among scientists, mechanics, and those who are extremely orderly, precise, and accurate; hence, the osseous will be one of the dominant systems. Lavater describes this mouth, and I cannot do better than to reproduce his description. He remarks thus:—

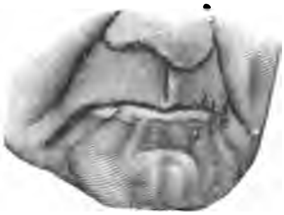
FIG. 189.—(WM. E. GLADSTONE.)

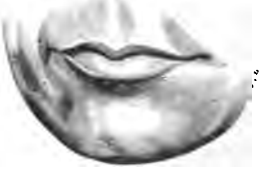
FIG. 190.—(MICHAEL FARADAY.)

TWO TYPES OF THE ORDERLY MOUTH.

> A mouth firmly shut, the cleft of which runs in a straight line in which the margin of the lips does not appear, is certain indication of coolness, of the spirit of application, the friend of order, exactness, and neatness.

THE ECONOMICAL MOUTH.

This mouth presents many of the characteristics of the common-sense mouth, for *true* economy is based on good judgment and a conscientious regard for the use of money, material, time, strength, health, friends, and opportunities. This mouth is wide, the semicircle of the upper and lower jaw-bones both presenting an uncommon width, together with well-developed lips and breadth of chin (sign for Conscientiousness).

A *talented degree* of economy demands high faculties and a comprehensive intellect; and one sign of breadth of mind is seen in breadth of the jaw-bones, or rather that portion of them which forms the semicircle or alveolar process, where the teeth are inserted in the jaw. Breadth of this semicircle indicates not only comprehensiveness, but also larger conscientiousness than where the semicircle is narrow and contracted, and the teeth overlapping each other for want of space to grow evenly in a normal manner.

I hold that *true economy* is produced by a combination of Reason and Conscience, both large, and where the quality of the individual is fine in combination we find the best exhibition of this trait.

Now, there are many grades of the *saving* faculty, from a talented degree of economy to a petty, paltry method of hoarding for the love of accumulation, which is exhibited by those whose mental outfit is quite limited, and who are incapable of giving on a large scale. Such beings are compensated by the faculty of saving by littles. In this class are many industrious, thrifty persons who are not misers, but who are yet constructed morally and mentally on a much smaller pattern than the true talented economist. These characters are not usually possessed of fine tastes in art and literature; hence, their nature does not crave the materials and opportunities for the enjoyment of such tastes; therefore they have no inclination to expend time and money in this direction. Their want of intellectual capacity is shown by narrow jaws and a small mouth, and this same narrowness indicates that Conscientiousness is *not very large*, nor very strong; hence, this class of individuals will not be actuated by the *highest motives* in their endeavors to acquire, but will, like the rat and other rodents, accumulate by methods not always the most honorable, and in some cases petty stealing will be practiced, and also the hoarding up by littles what is thus accumulated.

As before remarked, there are many grades of this faculty. Some of the narrow-mouthed economists will endeavor to acquire by depriving themselves of all bodily comforts, or what normally-constituted beings consider such; yet some very saving people seem not to have any need of what others deem actual necessities. It is, therefore, no sacrifice for them to do without these things. Then, too, their happiness is derived from small accumulations, and the knowledge that they are constantly adding to them. They do not seek the indulgence of such expensive luxuries as are involved in the enjoyment of music, literature, and hospitality, and in the exhibition of æsthetic tastes. The entire facial make-up of these small savers is in harmony with the mouth and jaws. The eyes are round, small, and bright, and the nose never very large. They resemble in looks and manners the squirrel, the 'coon, the opossum, the weasel, the ferret, and the fox. The lips are thin, and closed tightly. They are small, active, neat, and secretive, and always on the lookout for small chances to gain a *little*, and are great chatterers of small talk. The acquisitive or saving mouth has been well described by J. Stanley Grimes and quoted by me in the description of the faculty of "Acquisitiveness," page 541.

THE DESTRUCTIVE OR CARNIVOROUS MOUTH.

This mouth is in direct contrast to the preceding one, for it depends upon physical capacity and power. It resembles the carnivorous animals in size and form, and is indicative of force, courage, and strong passions of various sorts. It is wide, and the lower jaw and lip curve outwardly just over the lower canine teeth, producing the appearance observed in the mouth of the lion, the tiger, and other carnivorous beasts. As a rule, those who exhibit this form of mouth display a combative disposition, and seek to overcome their opponents by physical means. They also evince destructive tendencies of all kinds.

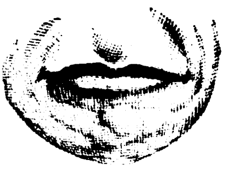

FIG. 191.
CHIEF GERONIMO.

I have observed this form of mouth in some persons of refined tastes, but their destructive proclivities were shown by carelessness in the use and handling of articles, ornaments, etc., and by destroying their clothing and furniture by abuse of them, by rough handling, and by lack of proper care, etc.

The lips of the destructive mouth are very red; the tongue large, wide, and strong, and the taste for flesh-meat is most decided.

CRIMINAL MOUTHS.

The forms of the mouths of congenital criminals, as a rule, "speak louder than words," and announce their grade in the scale of morals. They are of many diverse shapes and sizes. In some the dividing line of the mouth is all *askew*, one side rising higher than the other, and in some cases one side will be found wider than the other, measuring from the centre of the nose. In others, the line of closure is similar to that observed in some batrachians, the toad, for example. In others it resembles the forms of several of the fish tribe. I have seen some individuals whose mouths resembled those of the cod, the trout, and the mackerel. Those human beings who possess the latter form of mouth are said to be possessed of an inherited appetite for intoxicants. My own observations confirm this. Now, this habit is abnormal, and leads to every species of wickedness. This peculiar formation of the mouth shows that it is abnormal, for it is a reversion to a lower-type form, and reveals the peculiar characteristic of that form, viz., love of fluids, as well as a taste for intoxicating fluids.

The *curved* shape of these several classes of mouths exhibit the action of the law of *perversion*, or the law of the *skew;* their obliquity and deviation from the straight and horizontal or normal form of the line of closure of the mouth betrays their departure from the strict line of rectitude. They not only indicate abnormal thirst, but, as this form is the form of a very low type in the scale of development, it denotes either relative stupidity, insensibility, or brutality. It is not a *human form* at all. Lavater has noted this mouth, and ascribes to it the qualities of theft, mendacity, and brutality. The more nearly the human mouth approaches in form that of any animal, the more the accompanying characteristics of that species will be exhibited, and the lower in the scale of development the animal, the lower will be the moral status of the individual thus characterized.

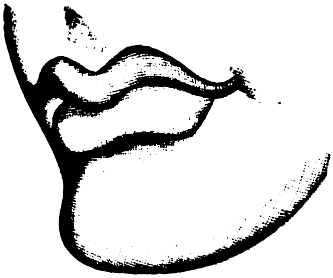
FIG. 192.—A SENSUAL MOUTH.

Some criminals exhibit their vicious propensities by great disproportion of the lips. In some cases the lower one is very full, coarse, and protrusive, setting far out beyond the upper one, which is thin and pale. In others, the under one is thin and flat, and the upper lip large, thick, and projecting. In the latter case there will be excessive sensuality, insensibility, and grossness in conversation, together with gluttonous tastes.

Observation and comparison of a collection of notorious criminals will reveal the fact that the signs of criminality are to be found, first, in the *motor* or muscular apparatus of the face,—in the mouth, eyes, and in the soft parts of the cheeks; secondly, in the motive apparatus of the trunk, limbs, feet, etc. All these indications are explained elsewhere in several places; hence I shall only allude to them here in order to show that it is upon the most *flexible* and malleable parts of the system that criminal, vicious, stupid, and brutal signs appear.

One great lesson to be drawn from this is, that inasmuch as these signs appear in the most *flexible* muscles and softest tissues, the attempt to *improve* and *elevate* these victims of transmitted faults is most encouraging, for the very *elasticity* of these parts proves that they are susceptible of *modification*, for where the movements of muscles are often repeated in the same direction they become *permanent;* then, too, there is a law of *automatism* of the muscles and a periodicity of motion of the nervous system through the action of which oft-recurring sensations and movements of these two classes of motor-powers create permanet conditions and forms.

The signs of criminal disposition are treated of in the description of the lips and eyes. The reader can refer to these for further instruction.

That the principle of skewism, scalenism, or sinistrality was understood in its *practical results*, at least by Lavater, is shown by the following. He remarks:—

> Of him whose figure is oblique; whose mouth is oblique; whose walk is oblique; whose handwriting is oblique,—that is, in an unequal, irregular direction,—of him the manner of thinking, character, and conduct are oblique, inconsistent, partial, sophistic, false, sly, crafty, whimsical, contradictory, coldly-sneering, devoid of sensibility.*

THE CHEEKS.

GENERAL REMARKS.

The cheeks of the human face are composed entirely of soft tissues, muscles, fibres, adipose material, nerves, vascular tissue, lymphatic glands, and an elastic skin, and by reason of their being composed entirely of the soft tissues of the body they are more susceptible to changes of their form than those features which depend upon bone or muscle exclusively for their outlines.

As before stated, all facial signs of character are situated in the tissue or constituent from which the *associated* mental faculty or faculties derive their power. It is thus that Nature *points us* to the *source* or *base of supply* of each individual faculty. Now, the origin of all of the signs of character found in the lower cheeks is *intestinal.* Hospitality, Alimentiveness, or Digestion, Friendship, Approbativeness, and Mirthfulness are *directly related* to this system. No one can doubt this who has ever made observations upon the changes wrought in this feature by good digestion, by dyspepsia or consumption, or by the sudden falling away of the cheeks through loss of appetite, or by a wasting disease. No animal possesses cheeks, properly so called. This part of the physiognomy is in them wanting. The development of character

* Essays on Physiognomy, Lavater, p. 463.

which I associate with this portion of this countenance is also in them measurably lacking. Animals do not exhibit in a *refined* manner those traits whose signs I have located in the cheeks, although they do possess the germs of all, and exhibit them in an animal-like manner in varying degrees. Instead of cheeks they have jowls or chops, and those who do not possess these are devoid entirely of any semblance of cheeks, and so we may truly say that the *developed cheek* is a purely *human* feature. Like all facial features, it observes an orderly progress in evolution and development, and in the perfectly-matured human being one's grade in Sociality, Friendship, Hospitality, and Approbativeness is at once settled by reference to the cheeks. Very little is noted in regard to the significance of the cheeks in works of art, of anatomy, or of expression. This neglect is so wide-spread that when I came to this portion of my work I found scarcely any authority by which to emphasize my own deductions. It is true, anatomy tells us all about the muscles, fibres, vascular apparatus, etc., of the cheeks, but nothing about the *forms* which are developed by the action of the juices which arise from the collection of tissues composing these features. Poets and lovers have written the most upon "rosy cheeks," "dimpled cheeks," etc., but I cannot accept as correct the deductions of these rather unscientific and partial thinkers. Art has perhaps enlightened us the most as to the *forms* of the cheeks, yet nothing in art-writings instructs us as to their physiognomical significance, except in a vague and general manner.

The cheeks in the human face are of great assistance both to mastication and language. The space gives room for the tongue in comminuting the food into small fragments, while the same area enables the singer, orator, and linguist to produce greater volume. The cheeks of all great singers are particularly full and rounding; they are full naturally, for the body and face of a great singer are suited to the performance of vocality from birth,—afterward by cultivation the cheeks become more distended by the constant practice of loud tones; yet they are never soft or globose, for the life-long practice of loud tones develops the muscular fibres of the cheek, and although they are elastic, as is required for vocal utterance, yet there is a firm and tense quality of the tissues which is not present in the soft, fat, globose cheek, which has not felt the effect of vocal gymnastics. Let the reader examine the cheeks of all great singers and speakers, and I dare affirm there will not be found one with hollow cheeks among them. See, for example, the physiognomics or portraits of Materna, Scalchi, Patti, Huntley, Neilson, Madame Sainton-Dolby, Campanini, Robert G. Ingersoll, Spurgeon, Daniel Dougherty, and Wendell Phillips. Among pulpit orators the cheeks of all who are in health present a rounded contour. See the Rev. Drs. Field and Joseph Thompson, Bishops Elder, Keane, and Simpson, and Rabbi Samuel M. Isaacs. Indeed, one will fail to find thin or hollow cheeks in the countenance of any one whose profession leads to constant use of the voice in the production of *loud tones*, from the pulpit orator to the auctioneer, and peripatetic venders of all sorts.

Animals are incapable of producing the sweet, melodious modulations which are characteristic of the human voice, for the reason that they lack the necessary mechanism, among which is that development of cheek observed in the human face; hence, the members of the animal kingdom bellow, howl, roar, whistle, mew, and growl, and the nearer a human voice approaches any of these sounds, the more defective is the speaking apparatus and the more the character partakes of some animal-like faculty.

A *use* for rounded cheeks has here been noted; beauty always follows use as a matter of course; that is to say, physiognomical beauty, as is proven in the case of the rounded cheeks of orators and vocalists. How much superior in form are these to the hollow, sunken cheeks of the dyspeptic or consumptive; for, says Dr. Cross,

> Every organ is physiognomically good in proportion to its aptitude for performing its whole vital and animal functions.*

The beauty of form and color observed in the cheeks of the most beautiful and healthful human beings proceeds from, firstly, inherited form and quality; secondly, from such condition of the intestinal system as will continue to supply the quantity and quality of blood and nutritive juices necessary to preserve the original form and color. When by reason of old age the cheeks shrivel and become sunken or wrinkled, these changes can be accounted for mainly upon the ground of a less vigorous appetite or enfeebled nutritive powers. All changes of this part of the countenance are directly traceable to the condition of this digestive function, hence we are justified in associating the signs of character observed in the cheeks with the *intestinal* system mainly.

With these preliminary remarks I shall draw your attention to the *two* general divisions of the cheeks.

THE TWO DIVISIONS OF THE CHEEKS.

For the purpose of description and analysis the cheeks may be divided into two parts, the upper and the lower. The lower part, as we have seen, is almost entirely composed of soft tissues.

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* An Attempt to Establish Physiognomy on Scientific Principles, J. Cross, M.D., p. 3.

At the same time it is somewhat modified in form by the shape of the lower jaw-bone, as well as by the structure of the alveolar process (the bone in which the teeth of the upper jaw are inserted), also by the size, form, and condition of the teeth.

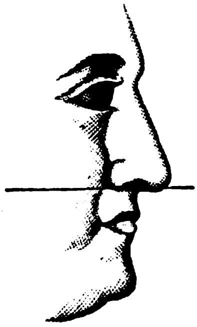
FIG. 193.

The upper part of the cheek depends mainly upon the form of the underlying malar bones and the muscles of mastication.

Let us examine, first, the several forms, colors, and appearances of the *lower* cheek, and afterward follow with a description of the upper portion.

The several general forms of the lower cheek are eight in number; all others are modifications or combinations of some one or more of these general forms. These eight forms of the lower cheek may be classified as follows: The embryonic, the globose, or infantile; the gluttonous, or exaggerated; the oval, or art-form; the rectangular, or moral; the irregular, or criminal; the concave, or consumptive, and the dyspeptic.

THE EMBRYONIC CHEEK.

In the early stages of prenatal life the human embryo has developed very little of that rounded appearance of the cheeks which characterizes the matured infant. At the second month of prenatal existence the human cheek is as devoid of development as that of the hog, which it somewhat resembles, and, as it reveals at this stage no appearance of a chin, the cheeks are very meagre indeed. (See Fig. 214.)

Now, sickness often reduces the cheeks to such an enfeebled condition as to cause them to *retrograde* to an almost embryonic state. There are also some undeveloped races, notably the native New Zealander, whose cheeks approach the embryotic in form, or rather in lack of form, for in these races there are many who exhibit such a formless, shapeless, chaotic condition of the cheeks as would justify one in saying they had no cheeks, only a place where they might develop. All these appearances teach us that the more nearly any given cheek approaches the form of the embryo, the more lacking is the character in those traits of which the normal cheek stands representative. The more the lower cheek approaches an oval or rectangular form, the more is it indicative of normal powers in the direction of friendship, hospitality, agreeability, and health.

In the earliest stages of embryonic life the intestinal system is not perfectly developed, and its sign in the face (the lower cheek) is also deficient in development. It will be discovered that facial features and physical functions advance *pari passu*, step by step, all along the line of progressive growth. It is precisely the same with the faculties and functions of the human organism. The development or non-development of facial features not only marks the progress of functional or physical growth, but it also discloses the grade of evolution of the mental and moral powers. How essential, then, is it to the student of physiognomy that he should observe with the eye of *accuracy* all stages of growth, and all diseased and imperfect grades of facial development, in order the more thoroughly to comprehend the several grades of the most mature, healthy, and perfect forms. All imperfections of the human face register and reveal imperfections of some physical function, and consequently disclose moral or mental deficiencies. A thorough comprehension of the knowledge of progressive evolution of the body and face of the human embryo, taken in connection with scientific physiognomy, will point at once to the origin of the defect in the body and its corresponding facial undevelopment. Deficient development of facial features is shown mainly by *concavities*, while development, power, and perfection are disclosed by convex or full forms; hence, full, rounded cheeks disclose more power and stronger digestion than concave or hollow cheeks. A convex nose, if broad, is indicative of greater mentality and stronger constitution than a concave nose of the same width.

Prominent cheek-bones announce greater strength and constitution than those which are flat. Rounded limbs are relatively stronger than flat ones, and thus by comparison of forms, and by application of the basic laws of Form in all stages of development, one may gain a wonderful amount of accurate physiognomic knowledge.

THE GLOBOSE OR INFANTILE CHEEK.

This form of cheek is observed in infants, vegetative beings, gluttons, and some idiots. The full, globular form is indicative of primitive growths. In infants it is normal, for here it represents the beginnings of development. In vegetative adults, it denotes a relatively immature condition of mind, for, as has been shown, the outline of the body denotes the *form* or condition of the mind, and primitive forms reveal relatively youthful states.

Many idiots retain the globular form of the lower cheek throughout life, and the other parts of the body harmonize with this facial feature. The arms, legs, and hands of such subjects present a full, puffy appearance, and exhibit a characterless expression, and one can readily see that there are no marked characteristics accompanying their limbs and hands. Such a soft, fatty, boneless combination possesses no force, hence the mind is wanting in capacity to express ideas, and the body, of course, having a very weak guiding apparatus, can create nothing.

The walk of this class reveals their immature mental condition. The motions of the body in walking are irregular, and create a rolling or shuffling gait, lacking in precision in stepping and marching, thus indicating absence of the faculties of Time and Order. The arms and hands are relaxed, and "flap" about without any attempt to carry them in a normal or graceful manner.

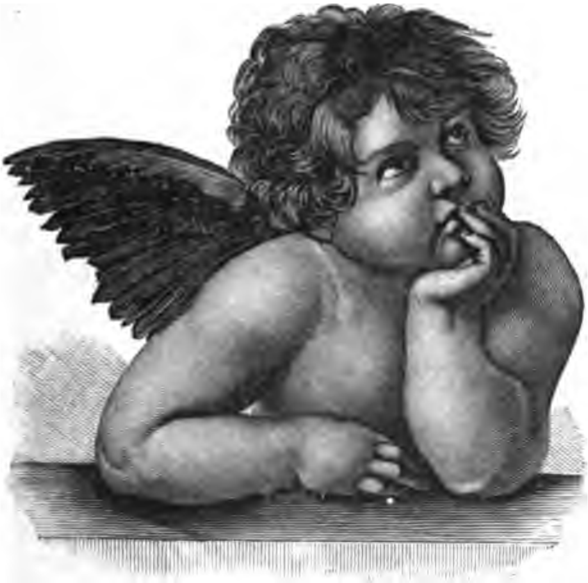

FIG. 191—CHERUB, BY RAPHAEL.

There are many degrees of feeble-minded persons who exhibit this formation, more or less modified by varying degrees of bone and muscle. The more bone, the more hard sense; the more muscle in combination, the greater the capacity for art-works. The vegetative system large, with a good share of muscle, is often accompanied with musical capacity and a good voice for singing, and, as singing does not require a high grade of mental power, we often observe these two systems dominant in those who excel in this department of music.

THE GLUTTONOUS CHEEK.

Great gluttons and gormands are often characterized by round, full cheeks, which sometimes hang down in soft folds upon the neck and breast. Representatives of the "Fat Men's Clubs" are good illustrations of the above. Those who eat voraciously without exercising sufficiently are prone to accumulate a large amount of soft, fatty tissue in all parts of the body; most especially does it develop about the mouth, lips, cheeks, and abdomen. Many large eaters work off the surplus fat, and thus maintain equilibrium of the several systems of functions, but in most cases increase of weight induces a disinclination to exertion, which assists the accumulation of the carbonaceous materials of which fat is composed; and as this accumulation goes on the subject becomes more inactive, more sleepy, and more obtuse mentally; the respiration is labored, the action of the heart and lungs impeded, and the visceral organs clogged by adipose matter, and thus the entire system takes

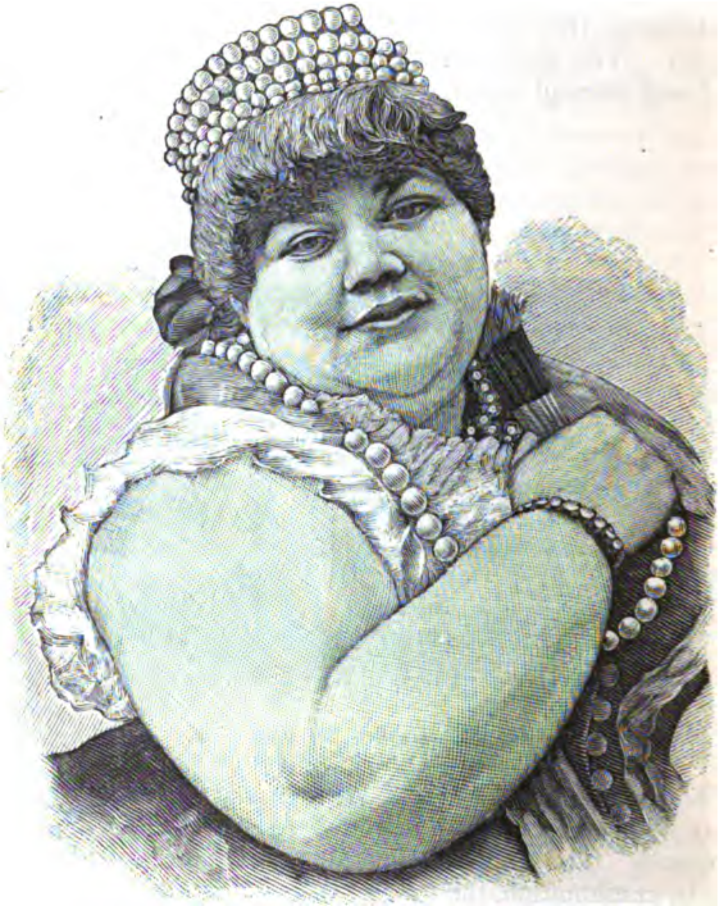

FIG. 195.—THE "DIAMOND FAT LADY."

on an abnormal condition, which often ends in dropsy, hypertrophy of the heart, enlarged liver, or other disorders.

The gluttonous cheek in adults who possess normal mentality differs from the globose form of the idiot or infant. Once seen and compared, they cannot be confounded.

Alexander Dumas, the celebrated French novelist, is a good illustration of the gormand, while Daniel Lambert is the highest type of the glutton. The cheeks of Louis XIV of France and George III of England betray their gluttonous appetites.

Many great drunkards develop gluttonous cheeks. In their case they are tinged with a dark-red or purplish hue, with red veins very prominent. Some are more gluttonous in drinking than in eating. This class exhibit very full, round cheeks, which are often of a yellowish-white, waxy or pasty-looking color. In these the facial sign for Bibativeness is most decided.

OVAL OR ARTISTIC CHEEK.

The oval form here, as elsewhere in the face and body, represents the art side of Nature. Those who exhibit a pure oval-

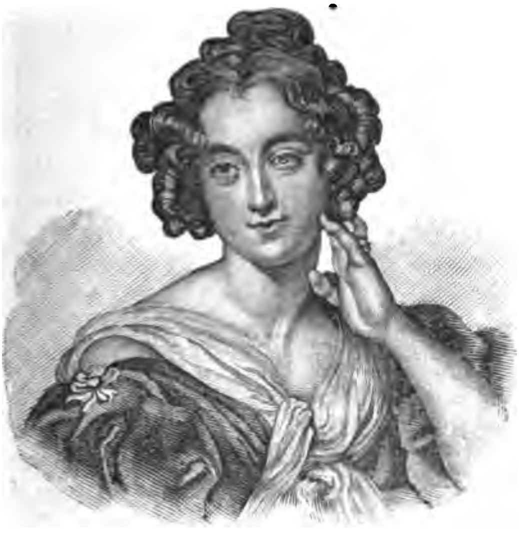

FIG. 196.—LADY PITT.

shaped face are possessed of æsthetic tastes, and if educated accordingly will excel in some department of art, being better adapted to this than to mechanical pursuits. They are graceful in motion, and in the arrangement of flowers, drapery, clothing, etc., display a great deal of taste, and as far as possible surround themselves with beautiful objects, and seek artistic associations. Those with this form of cheek possess a taste for *belles-lettres*, such as poetry and fiction, and with a good brain system in combination will incline to metaphysics and speculative religions. The hands of these classes are handsome, and the bones and joints almost invisible, the finger-joints dimpled and tapering, and the nails oval.

The portraits of Madame Recamièr, Nell Gwynne, Mary Anderson, Patti, Sarah Siddons, Raphael Van Dyck, Landseer, and scores of painters, poets, actors, and artistic writers display the oval form of the cheek. Many oval-faced persons display beautiful dimples in the cheeks.

THE RECTANGULAR OR CONSCIENTIOUS CHEEK.

This form of cheek belongs to the square-boned individual, and denotes the capacity for science or mechanism, and shows the presence of large conscientiousness and firmness; also the ability to comprehend hard, cubical, solid, concrete, common-sense ideas.

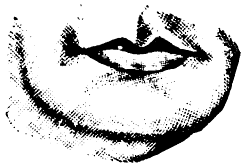

FIG. 197.
ROGER SHERMAN.

This form of cheek has a subdominance of the oval, if the subject be in good health, for where digestion is perfect it always gives a certain degree of roundness or curvation to the soft tissues of this part of the face. The limbs, hands, and fingers will agree in form with the cheek, and exhibit large, bony joints and a square form the entire length of the fingers, with square tips and nails. The cheeks of Washington, Lincoln, Gladstone, Tyndall, Thomas Jefferson, von Bulow, John C. Calhoun, and Lucretia Mott are of the rectangular form, and their lives and works were "squared" by principles of right and justice.

THE DIMPLED OR BEAUTIFUL CHEEK.

Although the ancient Greek artists in their works ignored the dimple in both chin and cheek, it is highly significant of character wherever found. It is a custom of writers who are ignorant of the high physiognomic value of certain features to deny them any precise or physiognomic value or meaning. To illustrate this I quote the following from the work entitled "Romantic Love and Personal Beauty." Its author, Henry T. Fincke, observes thus:—

> One of the most essential conditions of beauty in a chin, if we may judge by the descriptions of novelists, is a dimple. Yet it is doubtful whether a dimple can ever be accepted as a special mark of beauty. Temporary dimples (for the production of which there seems to be a *special muscle*) are interesting as a mode of transient emotional expression.*

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* Page 412.

How very singular this writer should so lack the logical faculty as not to be able to see a great significance in a feature for which "there seems to be a special muscle" appropriated "for its expression!" One would think that muscle material was so plentiful that Nature in a random mood threw out muscles all over the human face without intending them for any permanent use and destitute of any meaning whatsoever. If this were the intention of Nature she chose a limited field for her exhibition and displayed a wanton waste and ignorant prodigality.

The several varieties of dimples are produced by *distinct causes* and have *diverse origins and significations.* The dimples of infancy, such as are observed in nearly all well-nourished babes, are caused by a soft, fatty deposition of adipose material in such quantities as to cause the skin to form the little dimpled appearances seen upon the breast, body, hands, wrists, and about the mouth. The class of dimples observed in the chin and cheeks of adults (who are not of the vegetative form) are caused by a peculiar formation of the muscles which holds down the muscles in these features, and thus makes a permanent impression there. Dimples depend for their form upon the form of the underlying bone, and also upon the peculiarity of the muscle itself.

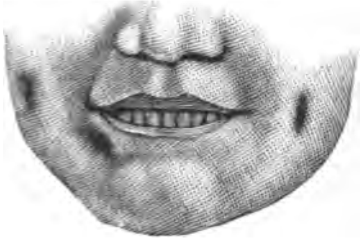
FIG. 198.—DIMPLED CHEEKS.

Can I ever sufficiently impress upon the mind of the student of physiognomy that "to despise the minute in Nature is to despise the infinite?" Every line, wrinkle, fold, and expression, no matter how minute or transitory, is pregnant with meaning. How much meaning, then, must there be in so large a facial feature as a dimple in the cheek, such as is very often observed in dramatic artists and in many greatly-gifted social characters, whose affability and approbativeness are their strongest traits!

Dimpled cheeks are seen to the best advantage while those who display them are engaged in the active duties of agreeable hospitality, pleasant conversation, and social entertainment.

The dimple in the chin, although more permanent in its expression than the dimples of Mirthfulness or Approbativeness, is so highly significant of character as to enable a scientific physiognomist to decipher one's kindly and art-loving tastes and tendencies by this feature alone, and not only may these two faculties be predicated upon the possession of this single dimple, but the entire body can be described by one look at this little "imprint of

Cupid's finger"; so, also, by this feature can the *general shape* of the *face* be known, for in this case it will be oval in the outline of the lower part, the eyebrows arched, the head round, the joints small, rounded, and supple, and their bones hidden by muscular development, the fingers inclining to taper, and the eyes large and prominent. All this and *much more* can be learned by the observation of a single little dimple in the chin.

Dissimilar-shaped dimples have diverse significations. A perfectly round dimple, like the one in the chin of Schubert, the eminent composer, discloses the highest capacity for art. In his case this form is caused by a combination of round muscles with round bones, and this is the most favorable combination for playing upon musical instruments. He possessed also a creative brain system, and this peculiar combination of brain, bone, and muscle imparted sensitiveness to the nervous system, and creative power, as well as great flexibility of the motive apparatus,—all essential to the production of music.

A dimple which presents a straight, cleft-like form has a signification quite different from the *perfectly* round dimple. The perpendicular dimple or cleft is caused by a combination of square bones with round muscles, and also a combination of flat muscles with round bones. These combinations indicate more taste for art than executive ability for art-works, yet those thus characterized are capable of achieving a fine degree of proficiency in some department of art.

Dimples of the face are never observed in infants prematurely born, nor in infants who are poor and lean; neither are they found in the physiognomies of congenital idiots. But in the mature, healthy, happy, rosy, well-nourished babe they are almost universally present, and are found about the mouth, cheeks, hands, and body in several places, thus evidencing that they are the signs of the presence of comfort, happiness, and mirth.

There are two classes of dimples in the cheeks, situated in two different localities, and these are, like the dimples in the chin, subdivided into two general sorts. The dimples near the corners of the mouth are some of the facial evidences of mirthfulness, love of fun, good humor, and wit. These also are of two sorts, the round and the perpendicular. The round ones belong to those sportive characters who can *create* mirth in various ways. The cleft-like dimples are seen in the faces of those who appreciate and enjoy mirth, fun, wit, and humor, but who have relatively less ability to create it. In these mirth is not as spontaneous as in the former. Now, in all comic actors, writers, poets, painters, etc., the dimples near the corners of the mouth are very apparent, and if they are not so deep as to be seen when the face is in repose they become visible upon the slightest attempt at conversation and in smiling.

The second class of dimples found in the cheeks is situated one or two inches outwardly from the mirthful dimples. These dimples are of two forms, round and cleft-like, or they assume the form of perpendicular lines which are seen in smiling and laughing. These dimples in their several forms indicate varying grades of Approbativeness. These dimples or lines are always found in the faces of artists, actors, and singers, and also in the physiognomies of those refined social characters who are gifted in the art of making delicate complimentary speeches, and who are also fond of receiving them in return. Surely a talent as creative as this requires a "special muscle" for its expression in the face; and this it has and *retains*, as any one may prove by comparing the cheek of a very approbative, agreeable lady with that of a morose, gruff, boorish fellow. The signification of dimples in the chin has been described at length in the analysis of that feature, hence unnecessary here.

In all my reading, research, and personal observation I have never learned that any savage race has exhibited either dimpled chins or cheeks. I have never observed in ethnological works a dimpled cheek or chin in the countenance of any individual among savage, barbarous, or undeveloped races. The engraving of the details of the face in all works is singularly neglected; and dimples may have appeared in some semi-civilized races, and not have been represented by the artist's graver. Still, I do not believe that these characters are ever present in the savage, for the reason that Mirthfulness is *never* well developed in them; therefore its facial signs—its wrinkles and dimples—are not exhibited in their physiognomies. It is logical to conclude that they have not reached such stage of refinement and of muscular evolution as would produce either this beautiful feature or its associated talent and signification.

If the Greeks did not reproduce this facial sign in their grand works of art, it was, as Winkelmann states, for the reason that they wished to approach as nearly as possible to their conception of the divine, and avoid as much as possible the imitation of any particular human being. I suppose they regarded the dimple as a feature of lightness, mirth, and sociality, hence not sufficiently grand and awful for the expression of divine character. It is strange, however, that they did not introduce the dimple in their ideals of Venus, Daphne, Cupid, and other light and joyous characters.

Dimples of the cheek and chin are tokens of the affectional nature, and denote the active passions of amativeness and a desire to please and attract the admiration of others, hence they are significant of fine powers which tend to race-improvement. For my own part, I consider dimples among the most pleasing and beautiful features to be found in the face, highly expressive and significant of great beauties of both mind and talent. They are certainly indications of evolutionary elevation and refinement.

Dimples upon the hands and body will be treated of in their own connection.

THE CONCAVE OR CONSUMPTIVE CHEEK.

The physiognomical principle that hollows and depressions of the features denote weakness and lack of beauty, and that full or convex features indicate strength and beauty, is nowhere better illustrated than by a comparison of hollow cheeks with those which are full or rounding. Where the cheeks are extremely hollow, we may conclude that the process of digestion is very feebly performed, and this inability tends to both dyspepsia and consumption. Where the tendency is toward consumption the cheeks will not only be hollow, but the jaws and chin, as a rule, will be narrow and almost perpendicular instead of curving outwardly like the "dramatic jaw." The nostrils will be narrow, and in some a pinched appearance of these features is observed.

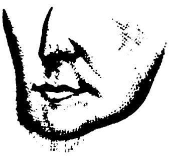
FIG. 199.

There are several methods used to remedy hollow cheeks other than by using plenty of good food. Rubbing them a few minutes every day round and round with the hands develops the muscular fibres of the cheek. Talking is a light gymnastic method of producing plumpness. Playing upon a wind instrument is still another method of filling out the cheeks and at the same time of strengthening the lungs. Singing and elocutionary exercises are pleasant methods of inducing a better shape of the cheek, but no remedy is as good as plenty of well-digested food and out-of-door exercise in the sun. This is a radical cure. Many persons have overcome a tendency to consumption by blowing upon a wind instrument, and their cheeks have filled out finely from this exercise. The cheeks of all professional singers are round and tense; never soft, flabby, or shapeless.

THE CONCAVE OR DYSPEPTIC CHEEK.

One of the forms which denote weakness of the digestive function is shown by hollowness of the cheeks in the lower part. and sometimes in the upper part as well. Where this is congenital it is almost impossible to remedy it, yet much may be done to strengthen and develop feeble powers of assimilation and nutrition by a judicious diet and by *plenty* of *fresh air* and *rest.* Food suited to the taste and that which digests easily is most essential in these cases. Change of climate is often one of the greatest incentives to a precarious appetite and an enfeebled digestion. Those who live on the sea-coast should (if the lungs are tolerably large and sound) go to the mountains or to the hill-country; while, on the other hand, those who reside in the mountains or hills should seek the invigorating effects of the ocean breezes.

Sponge-baths, quickly applied, are an efficient aid to the dyspeptic, but on no account should hollow-cheeked persons take a full bath unless there is a good red color in the cheeks and a vigorous circulation. As a rule, hollow-cheeked people do not exhibit very deep color of the complexion. Very often they display a pallid, ashen, or sallow tint of the skin, and when the latter is present complications of the liver may be predicated.

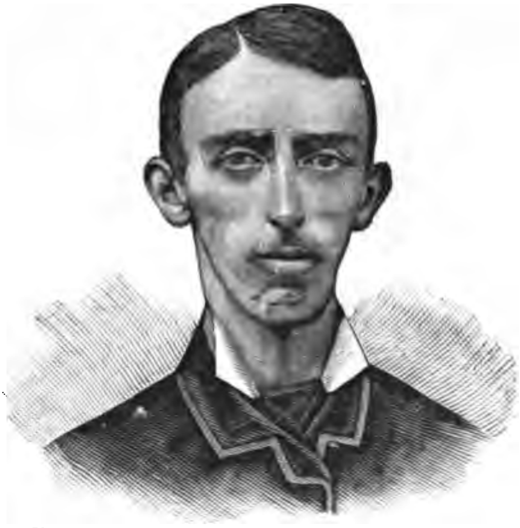
FIG. 200.—CONCAVE OR DYSPEPTIC CHEEK.

Those who from birth have hollow or flat cheeks are congenital dyspeptics, and are consequently not as strong in the friendly, social, and hospitable traits as those whose cheeks are the reverse. In order to exhibit these traits in their highest power, there must be, first, a large supply of nutritive material,—good warm blood,—in order that strength shall be created to carry forward the active duties of friendship and hospitality; and, second, to enable one to "warm" toward others, else the desire to fraternize will be absent. Friendship and hospitality are the most active and spontaneous in those whose cheeks exhibit normal fullness, and where they are too full for a normal size and shape a gluttonous or selfish tendency is present.

All *exaggerations* of normal form and size lead away from the true and proper function, and tend to grossness or coarseness. *Deficient* size and abnormal forms point to feeble action and weakness of function and reveal defective faculties. This statement is verified by comparison of hollow-cheeked individuals with those who exhibit a normal development of the lower cheek, together with those who possess an exaggerated or gluttonous form of the features.

There is no animal as gluttonous as the hog, and its body exhibits in its adult stage the same appearance as the human hog, who has crammed and stuffed until his skin is overlaid with deep wrinkles, and his eyes, like those of the hog, are scarcely discernible on account of the rolls of fat which he has manufactured out of the good things which he did not share hospitably with others.

There are other indications of weak digestion and dyspepsia, which will be noted in their proper connection.

THE CRIMINAL CHEEK.

Many congenital criminals exhibit a peculiar-shaped lower cheek, which is unlike any other form previously mentioned. It cannot be classed with the globose nor artistic, and certainly not with the rectangular or any *true* form. It is the result of the operation of the law of sinistrality, or the law of the skew. It is a chaotic, soft, flabby, and repulsive-looking cheek, without any marked outlines such as characterize all the other forms, and is always allied to other criminal features.

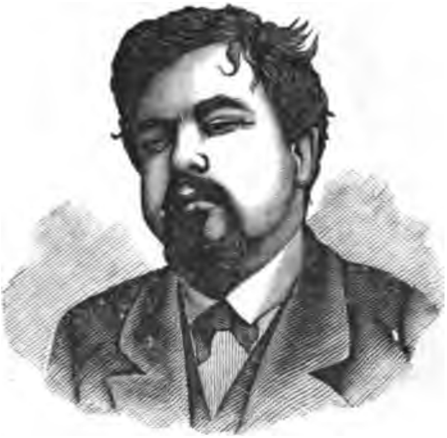

FIG. 201.—A CONVICTED THIEF.

The criminal cheek does not present the characteristics either of the infantile, globose, or gluttonous cheeks. It gives one the idea of a mass of soft, doughy substance, which has fallen into a chance or hap-hazard form, and has not been acted upon by any normal law of shaping; and this is really the case. To the keen physiognomist it reveals a long tale of broken laws, of neglect, of open defiance of moral and hygienic rules, and such a course would naturally produce ugliness, uncomeliness, and positively hideous forms, as well as absence of decided moral and mental tendencies.

All soft tissues under the operation of normal law assume either the globose state of infancy or the oval form of the adult stage, and this regular action of normal law produces quite different results in form from those created by the law of perversion or irregularity described in the chapter on "The Basic Principles of Form."

All criminals are not characterized by this form of cheek, but a large number of them exhibit irregular or chaotic shape of this feature; yet, wherever it is observed, some other sinister feature or features will be found in company with it, and are thus *additional* evidence of the action of the law of sinistrality, or imperfect curvation.

All deviations from normal types reveal departures from normal action in the nutritive system; hence, all exaggerated forms, as well as those that are undeveloped or wanting in normal fullness or roundness of outline, indicate defective methods of the assimilative processes.

Those who exhibit criminal cheeks seldom possess a fine, healthy color in them, for a criminal state of mind goes with a defective body, and, as color is evolved mainly from the digestive process, so these unfortunate beings show by the absence of a bright, fresh color of the cheeks the abnormal operation of the digestive function. Very few, if any, congenital criminals exhibit a fine, bright, clear red-and-white color of the complexion. Some have thick, muddy-looking skins, or present a dull, leaden hue, or a waxy-looking skin, or one thick with pimples or blotches.

It is true that some criminals exhibit oval and rectangular faces, but these, as a rule, are not congenital criminals, but have fallen into crime through some great temptation or under the influence of bad associations and bad examples.

THE NORMAL UPPER CHEEK.

The upper cheek is very greatly influenced in its form by the shape of the underlying malar bones. Prominent cheek-bones are in some cases a national type, as, for example, the Mongolians, the North American Indians, the Siamese, the Esquimaux, the Papuans, the Samoieds, the Calmucks, and others. Among European races the Hollanders, the Scotch, the Scandinavians, and Swiss exhibit several varieties of height and breadth of the malar bones, and in these races are almost universally high.

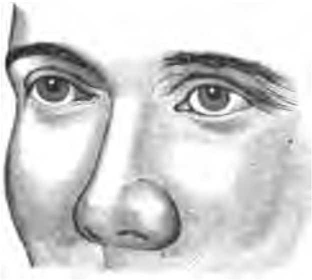

FIG. 202.
NORMAL UPPER CHEEK.

Of what *use* in the animal economy are high and strong cheek-bones? This is always the first question to ask in regard to physiognomical appearances. Large and strong bones everywhere, and in every animal organism, are found attached to strong and large muscles, hence their chief use is for motion or to produce motive power. The larger the muscles, the greater power they can exert, and large size shows that they have been greatly exercised. Large bones are produced by the use of foods in which bone-making elements preponderate, and also by lime-water and sunlight. Large cheek-bones, hence, belong to those whose ancestors have led an outdoor life, and who have lived on bone-making foods, such as grains, etc., and who have been accustomed to eating food which required an unusual *degree of power* in its mastication. The races in which this formation is most marked are those that live mainly out-of-doors, or the descendants of those that have thus lived.

As evolution advanced man from a nomadic, arborean existence to that of semi-civilization, his foods became of an entirely different nature from those formerly used. Instead of having to tear and grasp bones with his jaws, he has learned to soften his nutriment by cooking, and, as he began to cultivate grains and fruit, mastication became more and more easy; hence the muscles of the jaws and cheeks and the malar bones decreased in size and power, until now, in some subjects in civilized races, the jaws have become so small from the use of very soft-cooked food for ages as to cause them to be abnormally narrow, and the proper number of teeth are unable to find room in the contracted jaw-bones. The cheek-bones, too, have grown smaller and smaller until their narrowness is one of the physiognomical signs of weakness and shortness of life.

ABNORMAL FORM OF CHEEKS.

Cheeks that are flat at the malar bones, and which present a perpendicular line where a curve should be, denote consumptive tendencies, as well as intestinal weakness, as shown by Fig. 203.

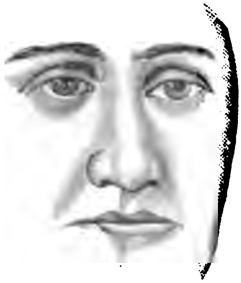

FIG. 203.
ABNORMAL CHEEKS.

The jaws are still used by savage tribes as a prehensile implement, and in civilization sailors and others often make use of the mouth in grasping knives and other implements, when both hands are occupied. Occasionally a "woman with an iron jaw" appears in entertainments, and edifies her auditors with feats of skill in lifting chairs and other heavy articles by means of her jaws alone. All this goes to show that decrease in the size of the cheek-bones, to a certain degree, is in the ratio of advancing civilization and refinement, and this is supplemented by a corresponding increase in beauty, according to both art and physiognomical standards, but beyond a certain decrease in size it denotes weakness.

At any rate, the most beautiful of all the civilized races are found with such development of the bones and muscles of the cheeks as to serve in shaping the contour of the face into a beautiful oval, or such modification of the oval as contributes to a symmetrical appearance of the face, as, for example, the rectangular. Symmetry also has its signification in this instance; it denotes comparative refinement as well as the proper strength for the use to which the improved form is put, viz., the grinding and crushing of cooked foods, and the emission of loud yet melodious sounds.

High cheek-bones also have their physiognomical significance. In savage tribes they indicate brute force, ferocity, prehension, gross feeding powers, and combative propensities. In civilized beings all of these indications have toned down. Combativeness is softened to active *self-defense*, to defense of one's family and friends, instead of aggressive warfare. No races are more clannish than the Hollanders, Highlanders, and Scandinavians, and in these classes the high cheek-bone has this significance. One peculiar modification of the malar bone stands for the sign of natural physician. This sign, and its accompanying healing instinct, is large in the North American Indians. The modifications and refinements of this sign are very subtle, yet to the cultivated physiognomist and evolutionist they appear plain, simple, and natural. All of the great physicians of the world present a certain slight protuberance of the malar bone which cannot be mistaken in character after being once observed and located. Many natural healers exhibit this formation without the mental development of the former. Yet in these the cheek-bones are so formed as to show that the healing instinct and power are present. See, for example, the portraits of Drs. Rush, Conneau, Warren, Abernethy, Sir Astley Cooper, Hahnemann, Thompson, founder of the "Thompsonian" system; Priessnitz, founder of the "water-cure" system; and Dr. Tanner.

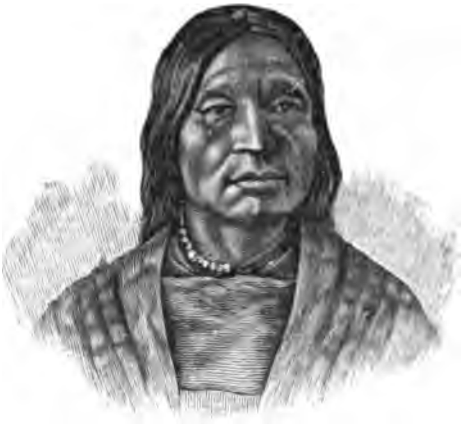

FIG. 204.—SAVAGE CHEEK-BONES. (AN INDIAN CHIEF.)

Thus it is shown that what was in the savage a disposition to defend life and gain a living by brute force becomes, in its more cultivated aspect, self-defense, and, going higher still, it is refined into the desire and capacity for protecting life by remedial efforts. Such is the evolution of this one species of selfish force,—a wonderful lesson which Nature affords us, both in progress and evolution, and in progressive physiognomy.

In all good surgeons Force is one of the dominant traits. When this is allied to skill the ability is present for performing those great operations upon the human subject which, without a large degree of force, could not be successfully accomplished.

One of the signs for Sanativeness is relative development of the malar bones. *Width* of the *bony structure of the face* at this point is one of the signs of longevity.

Very high cheek-bones, in combination with coarse quality, are indicative of commonness and coarseness. The same development, with a finer quality, denotes self-defense, clannishness, natural capacity for nursing and healing by laying on of hands and manipulation.

The natural physician has a smaller development of this bone than the former, and those who are flat at this part are never good nurses, and dislike exceedingly to undertake the care of the sick.

Such, in detail, is the significance of the malar bones in their several physiognomic aspects.

THE NOSE.

THE EVOLUTION OF THE NOSE.

A comprehensive history of that greatest of facial features, the nose, would fill a large volume, but as the scope of this work precludes such amplification, I shall endeavor, within the limits allotted me, to give the reader such data as will enable him to have a fairly good idea of the immense significance of this almost sublime feature,—a feature far removed from an animal form, although serving an animal function in the human economy. This feature is of such vast physiognomic importance that Lavater, speaking of it, observes that

> A nose physiognomically good is of unspeakable weight in the balance of physiognomy. It can be outweighed by nothing whatever.*

As the reader progresses in this chapter, I opine he will be quite in accord with the above opinion of this great observer, and will, I hope, imbibe some of my own enthusiasm in regard to this facial member, which is both organ and feature,—both highly mental and highly physiological in its form, function, and significance. As this part of the chapter will be very lengthy I shall at once proceed to a slight description of the evolution of the nose, as shown by Haeckel, and then quote some of the masterful analyses of Dr. Cross in support of my theories upon the mental significance of this regal feature.

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* Essays on Physiognomy, Lavater, p. 472.

Fortunately for the advancement of scientific physiognomy, it is able in this era to draw upon the most advanced and comprehensive methods of evolution, anatomy, physiology, and cognate sciences. These sciences not only aid in the analysis of human nature, but also *verify* my conclusions drawn from observations of the *form* of the features, and the colors and qualities of the human face and body. Had these ideas been promulgated in the preceding century they might have been regarded only as tentative or empirical, but, like many other subjects of human research, they have appeared contemporaneously with other advanced theories, and thus receive their support and verification.

It is an axiom that the laws of all phenomena are correct if they agree with the operations of the phenomena, and are in harmony with other *established laws*, hence it is that I so often appeal to the writings of the best-known minds of this age for that authority which might be denied my own rather positive theories; and, again, these extracts afford instruction in many sciences which could not be elaborated within the limits of this work. To the reader who desires a thorough knowledge of the features of the face, the following description of the evolution of the nose by Professor Haeckel will be most interesting. Its farther evolution (after birth) of the flat and snubbed noses of the savage and immature classes will be considered under the head of the "Forms of the Nose":—

> The history of the development of this sense-organ (the nose) is of high interest. Although the human nose, externally viewed, seems simple and single, yet in man, as in all higher vertebrates, it consists of two perfectly distinct halves of a right and left nasal cavity. These two partitions are entirely separated by a vertical partition, so that the passage into the right nasal cavity lies only through the right nostril, and into the left cavity only through the left nostril. Posteriorly, the two nasal cavities open separately through the two posterior nasal apertures into the head of the pharynx, so that the pharynx may be entered without touching the cavity of the mouth. This is the passage by which air is usually inhaled. The mouth being shut, it enters the pharynx and thence passes through the windpipe into the lungs. Both nasal cavities are separated from the mouth-cavity by the horizontal, bony palate-roof, to the back of which the soft palate and the uvula are attached like a hanging curtain. In the upper and hinder portion of both

nasal cavities the olfactory nerve extends over the mucous membrane which lines these parts. This is the *first pair* of brain-nerves which issue from the skull-cavity through the sieve-bone. Its branches extend partly over the partition wall and partly over the inner walls of the nasal cavities, to which are attached the "shells" or spongy bones of the nose,—complex bony structures. These "shells" are much more further developed in many of the higher mammals than in man. In all mammals there are three of these "shells" in each of the two nasal cavities. The sensation of smell is produced by a current of air containing odoriferous matters passing over the mucous membrane of the cavities and there coming in contact with nerve-ends.

The peculiar characters which distinguish the olfactory of mammals from that of lower vertebrates are represented in man. In all specific points the human nose exactly resembles that of the Catarhine apes, some of which indeed possess an entirely human external nose. (See *Semnopithecus nascius.*) The first rudiment of the *olfactory organ in the human embryo* does not, however, show any signs of the fine form of the future Catarhine nose. Indeed, it *first* appears in the same form which persists for life in fishes,—in the form of two simple pits or grooves in the skin of the upper surface of the head. In all fishes two of these mere blind nose-pits are found in the upper surface of the head. Sometimes they are situated at the back near the eyes; sometimes near the snout; or, again, near the mouth-opening. They are lined by mucous membrane in folds, over which the end-branches of the olfactory nerves spread. Comparative anatomy thus still shows us simultaneously in the ascending series of the double-nostriled vertebrates, from fishes up to man, all the various stages of development of the nose, which the very highly-developed olfactory organ of the higher mammals has passed through *successively* in the different periods of its tribal history. *The first rudiment of the organ of smell in the embryo of man*, and in that of all the higher mammals, makes its appearance in the *same entirely simple form* which is retained *throughout life by the nose of fishes.*

At a very early stage, and while no trace of the characteristic facial structure of man is yet visible, a pair of small grooves appear on the front of the head and before the primitive mouth-cavity. These were first discovered by Baer, and by him properly-enough named "olfactory grooves."

The external nose is not developed until long after all the essential *internal* parts of the olfactory organ have been formed. The first trace in the human embryo during the first month shows that originally there is *no trace* of the external nose. It afterward grows out of the anterior nasal portion of the primitive skull. The form of nose which is characteristic of man does not appear till a *period far later.*

Much stress is usually laid on the shape of the external nose as a noble organ, occurring exclusively in man; but there are apes which have very human noses, as, for instance, the nosed-ape already mentioned. On the other hand, the external nose, the fine shape of which is so extremely important to the beauty of the facial structure, possesses in certain *inferior races* of man a shape *anything but beautiful.**

The preceding account of the evolution of the nose shows us that it first appears in the human embryo as two simple pits. This rudimentary stage and appearance has its counterpart in the faces of some individuals of the undeveloped races, whose pictured representations by Lavater and by writers on ethnology show their noses to be little more than two round holes in the plane of the face where the nostrils are usually situated. These classes of noses indicate animal characteristics almost entirely devoid of anything of a mental cast. Now, from this low form of the nose up to the most perfect nose of the scientist or philosopher are many intermediate forms, each increasing in size; each indicating higher grades of mentality; thus proving that the basic law of physiognomy, viz., that "the size of the nose controlled by quality is the measure of power," is in harmony with Nature's manifestations, and that the flat nose of the negro and the snub-nose of many Caucasians are indices of comparative undevelopment of other parts of the body and mind.

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* The Evolution of Man, Ernst Haeckel, vol. ii, p. 240 *et seq.*

The prominent part which the nose plays in speech and in vocalization must be borne in mind. The savage tribes have a language which lacks resonance and richness. Their vocabulary is extremely limited, being confined to a few hundred words at most, and totally incapable of the melodious vocalization of the more advanced races. Not only are they incapable of comprehending ideas involved in the language which the highest races use, but they are also physiologically defective in the structure of the throat and nose, and in all the parts involved in fine vocality. Mind and function develop together, and when they are on a low grade, both mentally and physiologically, their noses and mouths disclose their low mental as well as low linguistic status. The variations in lingual capacity are far less marked among individuals of the civilized races, yet between the ornate and fluent language used by a Webster or a Clay to the limited vocabulary used by a commonplace or feeble-minded youth there are many gradations.

There are many variations of structure of the labial, laryngeal, and nasal organs. The more developed these organs, the more comprehensive and fluent the language.

These structures in infants being unperfected, prevent the perfect enunciation which characterizes their later efforts, while the same organs in the feeble-minded and idiotic are very far from the normal standard in form and size. In these classes *imperfect curvation*, not only of cellular tissue but of the *organs as a whole*, is apparent; hence, the manifold defects in speech that are observed in asylums for these unfortunate creatures prove a valuable lesson to the physiognomist.

The nose and mouth of these two classes would disclose these differences in grade without referring at all to the brain or form of the head.

The development of the human nose from childhood to the adult stage is most instructive. In infancy it has the form which is characteristic of those races that never arrive at a highly developed stage. Later, as the mind becomes active and the larynx and the bones of the nose and head are developed and perfected, the nose rises and at about the age of puberty assumes the size and form that it permanently exhibits. This lesson in nasal development in connection with mental development is witnessed in the progress of every individual from birth to adult life, and yet it seems to have failed in impressing upon observers any very important physiognomic lesson. So true it is that what is common and habitual to man impresses him the least. Were each one of us to look upon a human face for the first time in our lives, after arriving at manhood, we should regard it as the most singular object which we had ever beheld, and immediately commence an investigation of it; but, as it is the most common and familiar object we behold, by a strange inconsistency, less is known of its real significance than that of any other object with which we are familiar.

As the nose and nostrils develop in size, the *lungs* become larger, and as respiration on a large scale gives the power for active movements, so we shall find that it also energizes the mind. Dr. Cross analyzes this function as follows:—

> As the nose is the proper entrance into the respiratory organ, and as the energy is proportioned to the respiration, so the size of the nostrils must stand indicative of the *whole energy* of the animal. By the nostrils are to be understood not merely the two external orifices, but also the two nasal passages in their whole extent. Although the nose is less complicated in structure, in function, and in physiognomical expression than the mouth, yet, as breadth is more nearly connected with life than food, and as the chest is situated above the body and the nose above the mouth, so the nasal organ must indicate qualities of a stronger and more dignified nature than animal appetites and passions,—indicates, indeed, that very energy which it is the great business of the passions to rouse into action. The nose may be said to occupy all the upper jaw above the roof of the mouth or the floor of the nostrils. Above, it is separated from the brain by the cribriform plate of the ethmoid bone and by the clinoid processes, or *sella turcica* of the sphenoid bone. On either side it is bounded by the orbits and by the cheek-bones; below it rests upon the roof of the mouth. Thus the nose forms a long, *arched* vault, broad below, narrow above, the two anterior extremities of which look into the atmosphere; the posterior into the gullet. The nasal cavity also extends on each side into the maxillary caves, upward into all the spongy bones and frontal sinuses, and backward into the cellular structure of the *sella turcica*. Thus the nasal cavity is extended and enlarged in every possible direction, and has actually by its encroachments hollowed out and undermined the whole fabric of the upper face. *Thus the two openings, mouth and nose, which lead into the two great vital organs, occupy nearly the whole face.*

In making a study of the evolution or development of the nose, we are first led to examine the noses of animals, among which the elephant takes first rank in nasal structure, as his proboscis is not only nose but hand, and capable of many diverse intelligent acts. Its length and flexibility are qualities which excite our attention, for it is the most unique feature presented by any animal. Compare the mind of the elephant with the size or length of his proboscis (for thus does its *size* show forth), and we shall find that its intelligence, reason, and intellect are in direct relation with this feature. No other animal possesses his sagacity, his foresight, his carefulness, for length of nose is indicative of all these qualities; most particularly of Cautiousness, as shown in the long noses of the Hebrew race, the most provident, far-sighted, and cautious of all races.

The horse and some species of dogs come next in rank in the size of nose, shown mainly by length. Some dogs are short-nosed, and these are not so intelligent as those with a longer one; they are less careful, also. Several of the ape tribes have long noses, but their physiognomic value is neutralized by the close approximation of the eyes to the nose, which in man or beast denotes relatively less breadth of mind and less intelligence than where the width is greater, as in the dog, horse, and elephant. And so we might continue the analysis of the nose as related to animal intellect indefinitely, but we must pass on and note the absence of development of all infantile noses. Without exception they are all flat in the centre, and resemble the forms which many immature persons exhibit throughout life.

Among the undeveloped, rude, barbarous, and savage races that retain a relatively undeveloped form of nose are the following, viz.: The Mongolian, the native Australian, the Negro, the Calmuck, the Malay, the Polynesian, and the Esquimau. Undeveloped noses, depressed in the centre, with nostrils spreading out low and flat are found among the undeveloped, immature, and poorly-organized of the Caucasian races, also in infants and many feeble-minded persons, and idiots, and other comparatively defective human beings.

A thorough investigation of the faces of all the previously-named classes will show that the nose advances in the ratio of intelligence, and that a finely-formed nose is not only indicative of improved functional powers, viz., those of scent and of resonance of the voice, but it is the best facial indication of *intellect*, showing not only the kind or sort of mentality, but also the degree of force or power which will be exhibited.

All of the several aspects of the nose will be treated seriatim, commencing with its physiology and its three divisions, followed by the physiological and mental signs which Nature has placed upon it, and which I have been so fortunate as to discover.

Before entering upon the analysis of this grand facial feature, I deem it necessary to define my use of descriptive terms, inasmuch as there seems to be a woeful absence of *precision* in the application of these terms, and also great confusion of ideas in regard to the comprehension of the forms of the facial features. The majority of people are apparently more unobservant of the forms of the human face, its *lines* and *features*, than of any other objects; while they are able to discuss intelligently a picture, or describe a gown or hat, with the utmost accuracy, I have been amazed at the utter ignorance displayed by otherwise intelligent people as to the precise form, color, and texture of faces and features which they daily observe. I am also surprised at the lack of precise terminology used in attempted descriptions of the several parts of the features. To clear up this confusion I subjoin the following definitions, hoping that their application may assist in the comprehension of my analyses and delineations of the nose:—

The under part of the nose I term,	The base.
The two openings at the base,	The nostrils.
The outer and lower sides at the nostrils,	The wings, or alæ.
The extreme point,	The tip or lobe.
The top of the nose from the root to the tip,	The back or dorsum.
The partition between the nostrils,	The septum.
The fine hairs inside the nostrils,	The cilia or vibrissæ.
The highest part of the back of the nose,	The bridge.
The sides of the nose above the wings,	The sides.
The point of junction with the forehead,	The root.

With these definitions of the several areas of the nose, my analyses and descriptions can be fully understood.

THE PHYSIOLOGY OF THE NOSE.

In accordance with the method pursued throughout this work, I shall discuss, first, the physiological aspect of the nose; afterward, its mental significance.

The physiological uses of the nose are many and varied. It is used primarily for

(*a*) Breathing, inhaling, and exhaling.
(*b*) Scenting, to protect the lungs and stomach from noxious gases, foods, and drinks.
(*c*) Warming the air to protect the sensitive lungs.
(*d*) Carrying the blood to the brain rapidly, and in large quantities.
(*e*) Assisting the *general* circulation of the blood.

(*f*) Assisting the voice in producing sonorous tones.
(*g*) Energizing bodily movements.
(*h*) Filtering the air by its passing through the cilia, thus excluding dust, etc.

The larger the nose and its accessories, the more powerfully will all of these functions be manifested, provided fine quality be present.

The deeper the inhalation, the stronger will be the mental manifestation; that is to say, the better the breathing capacity in a given individual, the better able will that individual be to manifest *his mental power.* It will not make him more mental, nor give his brain a higher quality than was his birthright, but it will enable him to make more useful that which he already has; it will increase his mental powers in the direction of activity.

Large, high, and broad noses exhibit more nearly the sense of scent than narrow and high, or depressed noses. In the animal kingdom this is well illustrated by comparison of the greyhound with the bull-dog and blood-hound. The former has little, if any, sense of scent, while the latter displays an intense carnivorous phase of the scenting function.

A *long* and *broad* nose will warm the air which enters the lungs more than a flat or thin nose, for the reason that the air passes over a *greater surface* before reaching the sensitive lungs. Thus does a long nose better *protect* the body (physiologically) than a short or narrow one. Later, we shall find that the longer the nose the more watchful, guarded, and careful is the individual (mentally). The noses of the majority of consumptives are either high and very thin, with very narrow nostrils, or very short, and depressed at the centre.

Deep breathing (through the nose) assists the general circulation, and a large nose and nostrils reveal this power, for the *rate of the motion of the blood* stands in direct relation with the size of the nose, lungs, and heart.

The *functional action of the brain* is also strengthened by the impulse given to the volume of blood sent to that organ by powerful and deep inspirations.

The *voice* is most especially affected by the size and form of the nose and nostrils and the accessory organs the frontal sinuses. The size and form of the nose, together with the development of the sinuses, contribute to produce sonorous tones.

Energetic movements of the body depend mainly upon the amount of air inhaled. Those who possess large lungs and heart are the most rapid and continuous in motion. The race-horse is a good example of this structure; the various deer tribes, also, whose thoracic development is relatively greater than the muscular system. The mind is also clear and active, and the sensations intensely keen, with this development.

Large lungs, associated with small or medium-sized brain, afford the best combination for rapid locomotion and mental activity. A large brain with average or small lungs indicates slow movements. The brain seems by its co-operation with the lungs to be the controller of bodily movements. It may be considered as an organ of co-ordination, for it certainly by its relative size affects the movements of the limbs. A large front brain, unless associated with a large nose, nostrils, and large lungs, is a sign of either great stupidity or excessive slowness of thought and movement. The ancient writers, from Aristotle down, are all agreed upon the idea that a great forehead indicates great dullness. They did not apparently relate the lungs to the brain as I do. Had they done so they would have given a more enlightened view of the size of the forehead. Daniel Webster had a forehead of noble proportion, but his chest-cavity and digestive powers were *equally great;* hence his ability.

The preceding are the purely functional or physiological uses of the nose and its accessory organs. When we arrive at the consideration of the mental significance of the nose we shall find that it has many more mental meanings than physical offices.

The intimate relation of the brain—the principal mental organ—will then become apparent, for the respiratory system, the nose, and the intellect advance *pari passu* in development from the ape to the man.

Observation of those races that have remained fixed and stationary in their undevelopment for thousands of years (as the negro, for example,) shows that their noses have retained the same form that their ancestors then bore. The sculptured remains of Egyptian and other schools of art, as discovered by archæologists, prove this to be the case. All of which goes to show that the development of intellect and the nose stand in direct relationship and rise and fall together.

Doubtless the width of the nose at its root in the negro affords such expansion of the olfactory ganglia as creates in him powerful scenting capacity. Yet I doubt that his scent is as susceptible to delicate odors as one less wide but of *higher* quality. The width of the root of the nose, of the back, and of the nostrils all denote more power of those functions and faculties which they respectively represent than if these parts are narrow. Breadth always indicates vigor or power, and narrowness denotes weakness, unless the *quality* is sufficiently high to offset mere size or quantity.

Thus, breadth of the nostrils always announces large, capacious lungs, on the principle of homogeneity. Nature makes every part to match every other part, and wherever there is a large thoracic cavity the nostrils are large in order to assist the ingress and egress of the large volume of air required to fill the lungs. Large nostrils presuppose a powerful heart, for the heart stands in direct and intimate relationship with the lungs, and if the latter are large the heart must be correspondingly vigorous to assist the process of circulation. Thus, we have in the nose the signs for the lungs and heart.

The part performed by the *liver* in the process of clarifying the blood is no less important to mental manifestation than it is to physical purity and soundness. The liver is a "clearing-house" for the blood; it is in this organ that the purification of the blood takes place; hence, this organ must be on the most intimate terms with the lungs and heart, as all three are equally interested in the circulation of the blood. The relative position of each of these organs in the body is such as to favor their associated efforts. Their signs in the face are also in such contiguity as to point to the intimacy of their action. The sign for the liver is the downward development of the septum of the nose; its situation is between the two nostrils, which are the signs of the lungs. All three of these organs contribute by their power and development to create the necessary nourishment for powerful cerebral action; hence, the more vigorous these three organs collectively, the greater the ability of the brain to think clearly and profoundly. The liver by its vigor assists directly to clear the blood, and when thus purified it is sent *directly* to the brain. It is thus shown how directly the brain is dependent upon the action of the liver for ability to think clearly. Thus, we see that those who exhibit the sign of an active liver in the septum of the nose exhibit also the faculty of analyzing—of clear thinking. It does not follow that they also think *profoundly*—that is seen by other signs; but they will be able to analyze *clearly* whatever they are attracted to by the combination of their other faculties.

I cannot now name any person eminent as a *logical* thinker in whose face or portrait the sign for analysis—for an active liver—is absent.

The sign for one other grand function is found in the nose. At the bridge the sign for the *stomach* is found. If the nose be *broad* and *high* at this point the stomach is congenitally vigorous, but where the nose is very flat, or thin and high at this part, the stomach-digestion is relatively weaker. In order that the brain, as well as the body, may be vigorous, it is essential that the *stomach* be strong and normal in all its operations, in order to be able to prepare the aliment received into it for the next stage of digestion, viz., that performed by the intestinal tract. Where both these divisions of the digestive system are vigorous, perfect assimilation of all the food received is accomplished, and a large supply of that nourishing fluid, the blood, is created, and thus the entire system, the brain not only, but the nerves, the bones, the muscles, and all other tissues of the human economy are supplied with the nutriment essential to the manifestation of strength of body and mind. Where the digestion is perfect, the liver active, the breathing apparatus sound, and the circulatory system harmonizes with the digestion, we may reasonably expect a manifestation of great strength of body or great mental vigor, or both combined.

All of the above-named organs, viz., the lungs, the heart, the liver and stomach, are closely related in the process of creating, distributing, and cleansing the blood. Mental power and vigor depend upon the quantity and quality of blood furnished to the brain, and this last statement reveals how and why the nose becomes the indicator of both mental faculties and physiological functions.

It is thus shown that in order to have perfect intellects we must seek to have perfect bodies, composed of organs that are *normal in size and activity.* The most powerful mental characters in the world's history have been men of large physical powers, and these men, *without exception*, have exhibited large noses. Mental force demands fuel, and this fuel is manufactured in the stomach, heart, liver, and lungs. These together form a great "steam box," or driving power, for that mighty engine—the human mind.

The intestinal system has representation in the nose, through the sign for Acquisitiveness; also by the *color* of this feature, for as color is evolved from the glands and exhibited by the arteries and veins, so the color of the nose denotes the health-conditions of the blood. The fullness of the sides of the nose, just above the wings (see the sign for Acquisitiveness) denotes both intestinal and muscular vigor. Weakness in these functions is shown by concavities or a pinched appearance at this place, as is often seen in the noses of congenital consumptives. Thus is the physiological mapping of the nose completed. Its mental chart is yet more wonderful, for as every tissue of the body is comprised in the nose, viz., bone, nerve, ganglia, muscle, cartilage, skin, blood-vessels, arteries, mucous membrane, glands, and cilia, so also do the signs of the mental faculties which are situated upon the nose find their representation in these several tissues. The more forceful traits, such as Executiveness, are shown by *bone* development; the softer and more yielding, as Constructiveness, Imagination, Imitation, etc., are exhibited by the muscular or fibroid development. Thus is another link added to the marvelously complex chain of both revelation and evidence, which are piled like Ossa upon Pelion, in order that the proofs shall appeal to many sides of our intelligence, and that they may be remarked by many diverse explorers.

THE ANATOMICAL FORMATION OF THE NOSE.

The consistency of the nose is dependent upon the kind of tissue that enters most largely into its structure. Bone, muscle, and cartilage, together with veins, glands, and nerves, are the main constituents.

The size as well as the shape of the nasal bones varies, yet the *number* is the same in all civilized races at least.

TABLE OF ELEMENTS TO BE CONSIDERED IN RELATION TO THE NOSE.

In order to make anything like a systematic analysis and description of the nose, the following conditions and details should be examined, as well as the evolution, the physiology, the anatomy, and the signs of intellect which Nature has placed in the nose :—

(*a*) The three general forms: The concave or negative, the straight or passive, the convex or positive.
(*b*) The three general sizes: Small, medium, large.
(*c*) The three widths: Narrow, medium, wide.
(*d*) The three general heights: Flat, medium, high.
(*e*) The three general lengths: Short, medium, long.
(*f*) The three general forms of the nostrils: Narrow, oblong, round.
(*g*) The three positions of the nose relative to the plane of the face: Horizontal, upward, downward.
(*h*) The characteristics of these three positions: Noble, aspiring, ignoble.
(*i*) The three stages of development of the septum: Downward, even with the lower edge of the nostrils, above the nostrils.
(*j*) The three general widths of the septum: Narrow, medium, wide.
(*k*) The three forms of the lobe or tip: Pointed, rounded, angular or bevel-edged.
(*l*) The three horizontal divisions: Artistic and literary, executive, self-willed.
(*m*) The three principal constituents: Cartilage, muscle, bone.
(*n*) The three grades of consistency: Soft, flexible, hard.
(*o*) The four physical functions, the signs of which are situated in the nose: Breathing, circulation, digestion, motion.
(*p*) The six organ systems, the signs of which are found in the nose: The lungs, the liver, the heart, the stomach, the muscular and the osseous systems.

The evolution and physiology of the nose will also be discussed, and an exhaustive analysis of *forms* will be made. Whatever may be here omitted in regard to this most wonderful feature of the face must be learned from the living subject.

GENERAL REMARKS.

We can very easily facilitate the analysis of the nose by subdividing it into three parts—lower, middle, and upper; for as the nose is a most developed and significant feature, so is it complex in its multiform meanings. It is true that it is not as complex in its mechanism as the eye or ear, but there are reasons which preclude the necessity for such complexity. In the first place, it is an *external* organ, mainly; yet it has accessory organs that are hidden from sight. External features never exhibit the same complexity as internal ones, for they have arisen out of that occult stage, leaving the intricate machinery hidden, and stand forth simplified, yet significant of many things. This is the case with the external part of the ear, while the more complex and intricate mechanism, which renders it so susceptible to the subtleties of sound, is buried deep beneath its bony encasement. The external shell or auricle reveals the most hidden meanings as to the capacity of both sound and hearing. At the same time it discloses many characteristics, which will be discussed later under their own proper headings.

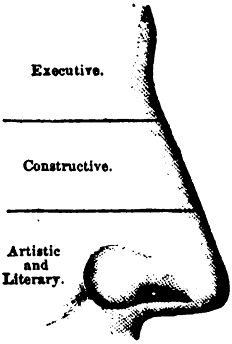

FIG. 205.

The olfactory nerve, which is devoted to the perception of scents and odors, sends forth its branches and filaments to the nose, at the root of which lies the olfactory bulb. From this bulb arise filaments, which are distributed to the nose and nostrils in a very liberal manner. It is this elaborate and affluent nervous distribution upon the inner walls of the nostril, and upon its surface, that gives to the developed nose of the highly-bred Caucasian its grade as a first-class representative of the intellect.

The subtleties of nervous mechanism, and of nervous ramification, together with high quality, are the causes which conduce to a high grade of development of an organ or feature; hence it is logical to infer that the ramifications of the olfactory nerve in the brain, and throughout the whole extent of the nose, would be more diffused in the higher-organized being than in the brain and nose of the immature, defective, or barbarous classes. Reference to the inner mechanism of the olfactory nerve, both within the brain and within the external nose, will show that it has high duties to perform, and it is by the physiological analysis of the mechanism of a feature, added to its external shape and observation of its use and purpose, that we arrive at a just and comprehensive knowledge of its rank and importance in the human economy.

Added to this is the fact that scenting is one of the more primitive functions—for as inhalation of the atmospheric air is the first act of life, so the sense of scent acts in unison with it, and scents the air even before it reaches the lungs. I have shown that all primitive functions are the most important, and exert a controlling influence upon the individual; hence the olfactory apparatus must take rank as among the very highest in the human economy. And the nose, viewed from every stand-point, is the most important feature of the face, and is significant of *more functions and faculties than any other feature.*

The nervous mechanism of the developed Caucasian nose must be much more elaborate in its ramification than that of immature beings; for nerve elaboration and sensitiveness are two of the most important factors in the development of a finely-formed and finely-organized nose; hence I use as an illustration the so-called Greek nose, this form describing the mean between the most powerful nose, the executive, and the flat nose—the feeblest of noses.

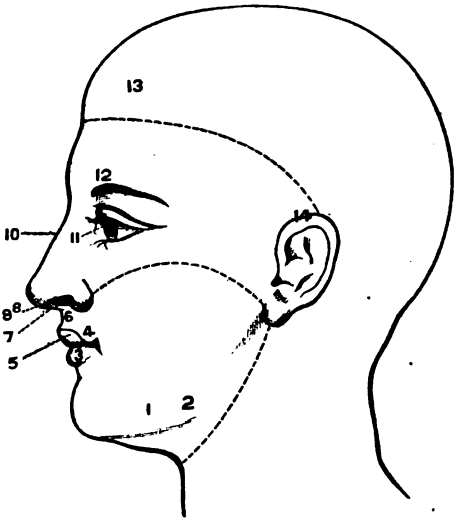

FIG. 206.—LOCATION IN THE NOSE OF THE SIGNS OF THE VISCERAL ORGANS.

Language utterly fails to adequately describe the full significance of the nose; yet science makes the *attempt*, for no other department of knowledge could do even this with any hope of success.

The lowest part of the nose exhibits the signs for the lungs by the two apertures—the nostrils. These are also the principal signs for Pneumativeness.

The sign for the liver is shown by development of the septum.

The sign for the intestines is fullness of the sides above the wings.

The sign for the heart is shown by the size of the nostrils and the color of the skin.

The sign for the muscular development is shown by general *fullness* and *roundness* of the entire feature.

The sign for the nervous system is shown by general development of the lobe or tip of the nose, and by the quality of *the texture of the skin-covering.*

The sign for the bony system is shown by *height*, *width*, and solidity of the upper part, and relative length, for the dominance of the muscular system shortens and the dominance of the osseous system lengthens the nose..

The sign for the stomach is shown by height and width at the bridge, and width or fullness of the sides just below it.

The root of the nose, if *full*, broad, as well as high, and nearly on a level with the forehead at its junction, is a corroborative sign of the *muscular* system.

These are the physiological aspects of the nose and the situation of the physiological signs.

The wonderful harmony existing between the human mind and body finds its most convincing witness in the signs in the nose, from the fact that all signs are situated in and exhibited by the *particular tissue* upon which the associated faculty depends for its ability to manifest its power. The sign for Executiveness, for example, is exhibited by the *bones* of the bridge of the nose, and this faculty depends upon a fine development of bone to manifest itself.

The sign for Acquisitiveness is found in muscular and adipose tissues, and this faculty relies upon the development of these two systems for ability to act in a talented manner, and thus of each sign in the face, as well as in the nose. Every sign will exhibit itself in its *own appropriate tissue.* These are examples of the beautiful harmony of Nature, as well as of the far-reaching discoveries of this system of physiognomy, for, although these harmonious proofs have existed since man came into existence, *no system* has hitherto brought forward all of these subtle links of the complex chain of evidence of the relations of mind, body, and face.

LOWER DIVISION.

MENTAL SIGNS: ARTISTIC AND LITERARY.

The signs of most of the artistic faculties, as well as of several of the literary and constructive traits, are situated in the *lowest division* of the nose. Some of the faculties employed in the investigation of science are also located in this part. The greater the *width* of the lobe and depth of the septum, the better developed are the artistic and literary faculties, or that portion of them which depends upon nervous sensitiveness and muscular action for their expression.

Hope is an enterprising faculty and is required to sustain the efforts of the artist, poet, writer, mechanic, and painter. It irradiates with a golden effulgence the ambitions of the struggling

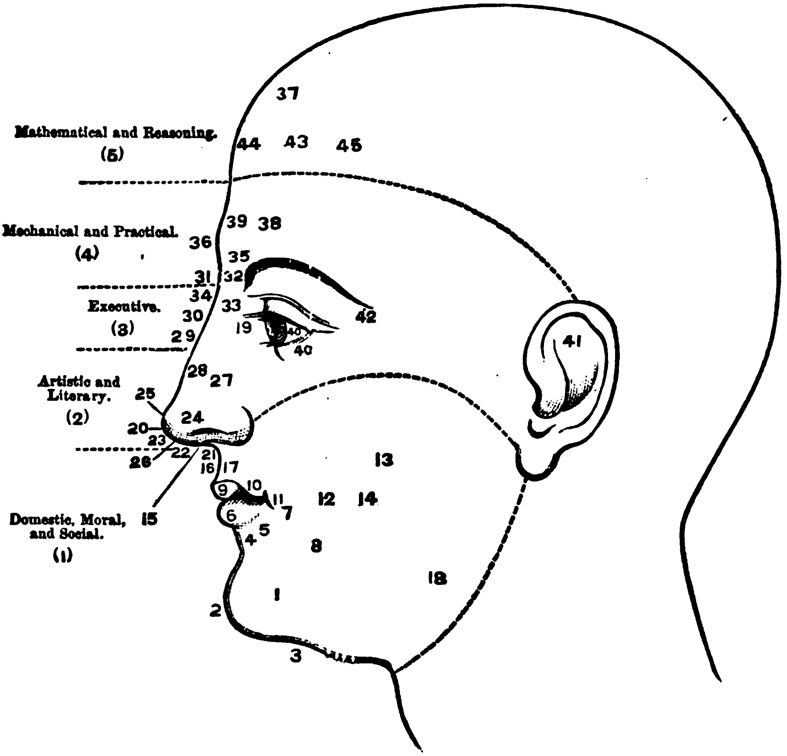

FIG. 207.—LOCAL SIGNS FOR THE MENTAL FACULTIES.

This table of numbered names refers to the numbers upon the above outline. There are several which are omitted from this list, for the reason that they have several facial and bodily signs or are general,—Color, for example. Those which are omitted are described in their own proper order: these are Color, Sanativeness, Force, Time, Order.

1. Conscientiousness.
2. Firmness.
3. Economy.
4. Love of Home (centre).
5. Patriotism (side).
6. Benevolence.
7. Bibativeness.
8. Alimentiveness.
9. Amativeness.
10. Love of Young.
11. Mirthfulness.
12. Approbativeness.
13. Friendship.
14. Hospitality.
15. Pneumativeness.
16. Self-esteem.
17. Modesty.
18. Resistance.
19. Secretiveness.
20. Cautiousness.
21. Hope.
22. Analysis.
23. Mental Imitation.
24. Sublimity.
25. Ideality.
26. Human Nature.
27. Acquisitiveness.
28. Constructiveness.
29. Veneration.
30. Executiveness.
31. Self-will.
32. Credenciveness.
33. Prescience.
34. Form.
35. Size.
36. Observation.
37. Memory of Events.
38. Locality.
39. Weight.
40. Language.
41. Music.
42. Calculation.
43. Causality.
44. Comparison.
45. Intuition.

aspirant for fame, and gives to every leaden cloud a golden lining. It is a necessary component of all aspiring characters, and enables the starving inventor and the destitute genius to bravely and cheerfully work out the grand conceptions by which they hope to immortalize themselves. The sign for this bright star of character is found upon the septum of the nose, just where it joins the upper lip. (See No. 15, Fig. 207.) The next sign in the septum, Analysis, just forward of the latter, is indicated by the *width* of the septum as well as by its downward projection. (See No. 22, Fig. 207.) The office of this mental faculty is to separate the component parts of an idea or object, and judge of its constituents and related uses. It is as useful to the poet as to the scientist. The philologist requires its powers, as well as the writer, actor, and painter. The inventor, mechanic, composer, and orator rely upon it, also, for correct knowledge of the various substances and elements with which they deal; hence, all well-endowed artistic, literary, scientific, musical, and mechanical minds disclose the sign of Analysis in varying degrees.

The third sign upon the septum is Mental Imitation (No. 23, Fig. 207). This sign is situated just forward of and adjoining the sign of Analysis, and includes the *under* part of the lobe or tip of the nose, which projects downward where this trait is well developed. This faculty is required by all classes of people who pursue avocations that involve mental discriminations.

The fourth sign (No. 25, Fig. 207) in this division of the nose I term Ideality—Taste—Imagination, for it manifests these several aspects of what is clearly a single faculty. The skilled physiognomist will be able to discern which of these phases presents itself. This trait, like its companions upon the septum, is needed not only by artists, but also by scientists and inventors. The latter classes have made many brilliant discoveries by the assistance which this faculty has afforded. It is shown by *width* and *height* of the lobe of the nose. A flat and broad lobe, like that of the negro, would indicate neither taste nor imagination. Such flattened forms denote the purely animal indications of the nose, and the tip is like that of many animals—broad and flat.

The sign for Sublimity is so closely associated with that of Ideality as to require close observation upon the part of the beginner in order to distinguish them and to give each its due. All noses which exhibit large Sublimity, as a rule, have a large development of Ideality. These two traits are the attributes of high development, and characters in which these faculties are largely represented are uncommon characters, for very commonplace persons, devoid of the four last-mentioned mental traits, disclose noses comparatively undeveloped at the tip, which in them is usually sharp-pointed or deficient in septal development, or else gross and bulbous,—the exaggeration which is always a proof of abnormal development, and which argues coarseness or gross living; and this bulbous form shows, by its swollen veins and purplish hue either degrading or abnormal habits of its owner, or else inherited inflammatory tendencies. Looked at from every stand-point, it is unnatural or abnormal.

Another grand trait which has its sign in the development of the lobe of the nose is Human Nature (No. 26, Fig. 207). This is known by *height* of the nose above the plane of the cheeks, and shows by a projecting forward, as if the nose were intent upon exploration of objects not easily reached. Width and height combined would give more power to this faculty. A sharp, high, and thin point would manifest only commonplace curiosity in regard to Human Nature,—would like to know more of the every-day doings, habits, and affairs of people than of their scientific, physiological, and hygienic conditions. The latter would be the subjects of inquiry of those exhibiting the *broad* and high nose. Breadth of any feature or of any part of it always discloses *more power* of the trait it represents than where it is narrow. Now, all great artists, such as actors, painters, writers of fiction, poets, etc., require the best sense of Human Nature. Accordingly, we find in their noses the point standing high out from the plane of the face. Scientists, too,—those who treat of ethnology, physiology, anatomy, and hygiene,—exhibit fine development of this sign. It is necessary for the salesman and superintendent, the executive officer, the detective, and teacher, and this peculiarity of the nose is found well defined in all of these classes who greatly excel in their vocations.

All who have to deal with large numbers of the human family, as well as with the animal races, need this trait, and if successful will exhibit it. It brings them *en rapport* with all animate nature.

One other most useful as well as ornamental member of this galaxy of stars—and one often relied upon by all the others in this group—is Constructiveness (No. 28, Fig. 207). This sign is close to the sign of Ideality, and all first-class poets, painters, writers, mechanics, and scientists exhibit a large share of this faculty. Its sign is fullness at the sides of the nose, just above the wings. It is muscular development aided by sensitive nerves that makes this fine faculty most effective. The noses of all good or great mechanicians are quite full just at this place; so, also, are the noses of writers of fiction, history, plays, and sermons, for all classes of constructive mentality require its assistance in the arrangement of their several works. The more of this faculty they possess, the more ingenious and original will be the machine, statue, play, poem, or plot which is brought forth.

The associated group of signs in this division of the nose announces the presence of distinguished company. Let us see who are these noble visitors who delight, evidently, in "high society." First we observe "Miss Starry Hope," with all her illusive smiles; next, the Grand Analyzer, who does not disdain to pick a sonnet to pieces nor to look cynically upon a Voltairean witticism, nor to kindly criticize the fine colors of a picture hanging upon the wall of the "salon;" neither is he averse to the discussion of the principles of Sound and Light; nor would he shrink from the task of reviewing the works of Racine, Newton, or Byron, and would undertake the task of writing an elaborate criticism upon the acting of Rachel or Ristori. So versatile is this gentleman's genius that, "like the atmosphere, it touches everything." For close companion he has Mental Imitation. This associate is needed, for he also attempts to not only imitate but to improve upon all the mental powers exhibited by all about him, and thus often succeeds in going beyond them all. This is his office—upward progress.

Sublimity, a close companion of the last, is a grand character which does not stop short in his investigation of the stars and comets, but he pulls them to pieces, and analyzes the nebulæ out of which they are made. The more vast and magnificent an object or theory, the better is this grand companion pleased. The sculptor, painter, poet, and actor often call upon him for aid.

Then comes the lovely maid, Imagination, or Ideality, with all her subtle witcheries to enchant and enthrall all of the before-mentioned grand old gentlemen. Will she succeed? Yes, every time. Not only will she ensnare the proud and refined of earth, but she reckons among her captives the Indian in the forest amid his whispering deities; the negro on the sands of Africa, who sees his angry god or avenging spirit in the lightning's flash and thunder's roll, and the rustic lover, awakened by the mystic spell of love's imaginings, looks upon his first beloved as a goddess. So potent is the influence of this mighty yet gentle maid that she may bid her subjects see gold in every leaden sky, and, behold! the gold is there. The transformations which this wonderful power creates defies even Father Time himself, for she puts new hearts into old bodies, but I am afraid she can scarcely perform that other miracle so much desired,—the placing of old heads upon young shoulders.

In this company, so distinguished, so "thoroughbred," and so exclusive (that they keep always by themselves in the lower third of the nose) we have a remarkable group of signs which are highly developed in the noses of the finest artistic and scientific characters only. And this group thus shaped is proof conclusive that the evolution of the nose at this part has reached its acme, for when it becomes exaggerated in form, as in the "bulbous" nose of the drunkard or vulgarian, it is indicative of traits just the *opposite* of these, so highly refined. All further evolution of this part of the nose will be in the direction of increased fineness or *quality*, not in size.

Not the least insignificant in this group of gentlefolks is Acquisitiveness (Fig. 207). Now, were all the rest of this notable company destitute of materials with which to build and decorate their fine-art objects, we should have neither picture, poem, statue, or temple, nor would the ingenious architect and mechanic be able to build bridges, houses, or any other useful edifice; so kind Nature aids by giving to these muscular companions the assistance of Acquisitiveness. This gives the desire to collect money, materials, and food. Thus supplied, all goes well with the noble ladies and gentlemen, for they must have resources, and so Nature gives to nearly all artistic people the love of acquisition. One likes best to gain *money*, another fame and applause, another strives to collect old books, pictures, statues, pottery, while others are satisfied with second-hand rubbish. Each has his "fad" to strive for. It is well when Acquisitiveness does not degenerate into a vice, as has been observed in the characters of some of the "old masters" of art, who resorted to dishonest practices by passing off their pupils' pictures as their own work in order to gratify an abnormal development of acquisition. Some even become inveterate gamesters with the hope of gaining gold rapidly.

In a balanced degree this is a most useful trait, and conduces to future comfort by urging its possessor to renewed struggles for money and materials. Every human being has need of its power, and its sign is placed most significantly right among the mechanical, artistic, scientific, and literary signs, thus showing that all these works require its aid.

The whole mechanism of the face in regard to the *placing* of the signs for faculties I regard as the most ingenious, the most wonderful, and most sublime piece of divine art, science, and mechanism in the whole range of universal construction. No *mere words* can express my feelings upon this point. The more I contemplate this fact, the greater is my wonder and admiration. Would that I could excite something of this feeling in my readers!

MIDDLE DIVISION.

MENTAL SIGNS: CONSTRUCTIVE.

Above the preceding interesting group of signs *Nature* places those which are required to more fully carry forward and conserve the works wrought out by those lower down. Without the ability to respect and *control* one's self, one's works, and also to control others and their works, man's usefulness in art, science, and mechanism would be unavailing. Accordingly, we find the signs for the faculties of Veneration and Executiveness adjoining and lying above the literary and artistic group, yet sufficiently near not only to make the nose beautiful in form, but also near enough to assist the character by self-control, and assist it to submit to law. A great architect must be possessed of a resolute will, able not only to control himself, but also able to dominate hundreds of others who may be in his employ, or whom he may have to sustain or oppose. In this case, Executiveness, Veneration, and Self-will must be present in a talented degree. The executive force manifested by such characters as Brunel, Vauban, De Lesseps, Roebling, and Stephenson, is, in itself, a *great talent*, aside from their constructive ingenuity, which is of the first order. So, too, the indomitable *will* of Farragut showed in his naval career as a talent which "backed up" his other great and splendid traits, and enabled him to make them *all* effective. Genius and talent must have the assistance of forcible, energetic qualities to sustain them.

The sign for Veneration (No. 29, Fig. 207) is large in the nose of Michael Angelo and other great artists. So, also, are Executiveness and Self-will (same figure). Veneration is found in varying degrees in male and female noses, and is shown by a slight upward curve just below the bridge of the nose. Its office is to aid the character in its efforts to respect and submit to law, order, propriety, God, old age, and all persons, places, and things entitled to respect. The concave and pug-nosed classes, not possessing any of this faculty, cannot show it in their actions, and are, therefore, unable to control themselves properly, and totally unable to control and command others except by bullying or by force. Their lack of Veneration is shown by their impudent behavior. Those who have the faculties of Veneration and Executiveness large are able to command and control themselves as well as others, through being *permeated* with the *principles* of submission and command, for he who can best understand law is best able to enforce its provisions as well as to obey its commands. Executing law is, in reality, obedience to laws that have been made for the guidance of the executive officer, as, for example, our President is the servant of the sovereign people, and must obey the laws by which he was placed in office. He *obeys* and commands also.

The post of honor in the nose belongs of right to Executiveness, the commander and conqueror, and this faculty, when exhibited in a large degree, rises high in a curved form at the highest point of the back of the nose. So true is it that the *arched* form represents power, for in this form of the nose Executiveness finds its highest illustration in the noses of the most aggressive commanders of ancient and modern times. As Veneration gives nobility and high-mindedness to the character, so Executiveness goes farther and *compels others to come up* to the law, and thus, whether they wish or not, they are compelled to defer to the laws of the place and country in which they reside, or pay the penalty.

In this middle division, then, we find a company of stern companions, of great use to those other friends in the lower division and of great use to the character every way, and of the greatest importance to the community as well. There are comparatively *few great leaders*. Were it not for the few *natural* superintendents, overseers, commanders, etc., humanity would resemble a flock of sheep without a leader. By a wise ordering of providence great leaders have appeared just when a great cause required their aid. Martin Luther, Washington, Elizabeth Cady Stanton, and other leaders came forward when the mental and moral status of the masses were sufficiently advanced to recognize the value of their services. All these characters possessed large Veneration and Executiveness, hence they were able to be the *law makers* for thousands who now rise up and call them blessed.

UPPER DIVISION.

MENTAL SIGNS: EXECUTIVE.

The upper division is situated above the sign for Constructiveness, and fills out the nose between the eyes with muscular tissue, and creates the sign for Self-will. It causes a fullness at this place, and the greater the fullness the more powerful is the will. It can be readily distinguished from bone. If it exceed a *certain degree* of fullness, and assume a *perfectly straight outline* of the nose where it joins the forehead, it is in a sense an abnormal development of the faculty, and selfish will is the result, instead of Self-will, balanced by reason and justice. This sign is composed *entirely of muscle*, hence its propriety as a sign for pure will.

All departures from the normal standards of form in any feature, whether those appearances be more exaggerated or less than the normal size and form, are to be regarded as abnormal in action *unless rectified*, *moderated*, *or balanced* by some other feature. Now, Lavater tells us that "the nose, to be physiognomically good or great, must exhibit some gentle inflexions or undulations," particularly in the descent from the forehead to the nose, and where Self-will is *too* greatly developed to be normal no undulation appears at this place; hence, the perfectly-straight outline *here* is not according to the normal or highest standard.

Extremely selfish will is an indication of stupidity; hence, where the descent from the forehead to the nose is described by a right line without any inflexion whatever, it is indicative not only of selfish will, but of stupidity to a certain degree. The very fact that selfishness is dominant is the proof of an *obtuse mind.* A selfish policy is ever a *short-sighted one*, and a comprehensively-benevolent mind will plan on so large a scale as to gain more in the end than he who looks only for present petty gratifications.

The perfectly-straight line should occur but three times (normally) in the face, viz., in the nose *below* the brows, in the upper lip, and in the mouth, which should be straight and horizontal. In regard to the so-called Greek profile, Winkelman observes:—

> The nearer the approach to the perpendicular, the less is there characteristic of the wise and graceful.

Noses greatly depressed or very thin and narrow between the eyes exhibit very little pure will, and the owners of such noses are relatively deficient in muscle *all over the body*, but may have great Firmness, which is a sort of compensation; hence, an observer remarking this small portion of the face alone could be able to describe the form of the head, eyes, eyebrows, neck, limbs, body, hands, and feet, as well as the dominant traits and voice. Of course he would have to understand the principles of scientific physiognomy to enable him to do this.

The sign for Self-will stands *alone*, *yet connects* two remarkable groups. The executive and the practical signs are here grouped, the one below and the other above the local sign for Executiveness. Both groups need the aid of an *intelligent* and balanced will to make their labors of the highest efficiency, and it seems to be the plan of Nature to always closely associate in the body those organs and functions which require mutual aid of each other. To make this *interior* plan harmonize with the exterior, the *signs* of these several functions and faculties are observed always in such contiguity as to facilitate the task of *locating them*, and of deciding upon their power or weakness.

With these remarks, the description of the three divisions of the nose is completed. Taken in consideration with what has preceded it, and with what will follow upon the subject of this organ, the reader will, I opine, have a rather exalted regard for that most noble, most human feature—the nose.

The nose is the great *central* feature around which all the other features revolve, so to speak. It is the *sun* of the facial system, and reveals at the first glance the most interior conditions of both mind and body; it gives us the most positive, direct, and incontrovertible knowledge of the interior man, and instantaneously reveals a man's capacity for thought and action.

The main part of the nose is osseous, and the soft or cartilaginous parts take their form from the nasal bones in a measure. Bone and flexible muscles constitute the principal constituents of the nasal organ. The skin, the blood-vessels, the nerves, and coloring pigment assist in its expression.

The nose is more indicative of character than any other feature, or, I might say with more accuracy, it reveals *more characteristics*, both mental and physiological, than any other facial feature or pair of features. The nose is the facial indicator of the *collective mind*. The *form* of the nose announces the *direction* or dominant tastes, proclivities, and powers of the individual, while its *size* reveals the degree of power and energy which will be applied. We have previously noted what the mouth, chin, lips, and cheeks disclose, but neither of these features, taken singly, give as much information concerning *mental traits* and *physiological functions* as this great central feature. The mouth instructs us in regard to the *digestive* capacity, and the mouth and lips inform us as to the *affectional* or *emotional nature*, but the nose exhibits the signs for several physiological functions, and also points out the dominant mentality, together with the degree of energy which will be manifested in the exhibition of mind.

The eyes may appear to poets and lovers to be the "mirror of the soul," and the forehead may seem to phrenologists to be the "dome of thought;" but when the aforesaid "dome" is covered by a hat, or thick head of hair, and the "mirror" closed by sleep, injury, or death, the scientific reader of character is not hindered in his task of reading the human mind and body by all of these obstacles. If he once get a glance at the noble outline of the nose and nostrils he can render a just verdict, and no art of dissimulation, no muscular trick or affectation, can here avail; for the fair proportions of the nose cannot be made to assist in any concealment of the *mental powers*. This feature thus stands the *positive* indicator of the most interior recesses of the human mind and body. I do not claim that it reveals any knowledge of the "soul," for my work deals mainly with a material mind in a physical body. I therefore leave to those more learned on the subject of soul-power the task of describing its locality and appearances. I should like to be able to do this, but as I lack the ability I will not profess what I cannot perform. The study of the *human body and mind* is surely a *noble pursuit*, and worthy the best efforts of the most capable and benevolent of the race. Generations of students will not suffice to reveal all that there is to be known upon the subject, for human nature is progressing under the inexorable law of evolution, and its interpreters must advance with this upward movement, and, like the astronomers, each generation must add its quota of knowledge to be added to and built upon by those who follow.

A comparison of the noses, first, of infants and immature adults, such as idiots, the feeble-minded, and dwarfs, with those of the most normal and developed adults, leads us to the conclusion that one basic principle of scientific physiognomy is correct, viz., that "the size of the nose, controlled by quality, is the measure of mental and physical power," and a comparison of all of these classes with savage and undeveloped races proves another basic law, viz., "the shape or form of the nose indicates the kind or direction of mental power." With these two principles as a guide to the analysis of the nose I will commence the description of the morphology of this grand organ, for it is both organ and feature combined.

The *general* and universal laws of form may be applied to the analysis of the nose. The several *combinations* of these forms will reveal individual characteristics. It is thus that individual noses are constructed, yet each one can be assigned to a particular class. When we reflect that *there are in the world no two noses precisely alike*, it is evident that nothing less than the application of *basic principles of form* would be adequate to discover their meanings. Notwithstanding the immense number of diverse noses that have been and are now in the world, no two could have been exactly alike, for the circumstances which mold one human being never surround another, and it is the minute circumstances which, aggregated, affect the organism of man. Even twins, who usually resemble each other greatly, could not be *exactly* alike.

Let me, by way of premise, observe that the basic laws of Form control and expound most emphatically the meanings of the nose, and the student is asked to apply these laws to the several forms of the nose and carry them to their logical conclusions.

The horizontal line of the *nostril* (Fig. 208) is the most *perfected* type of outline for this part of the nose; hence, is the normal standard of form for this line. It betokens noble characteristics.

The upward outline of the nostrils (Fig. 209) is relatively less perfect and mature, and discloses infantoid, inquisitive, and hopeful tendencies.

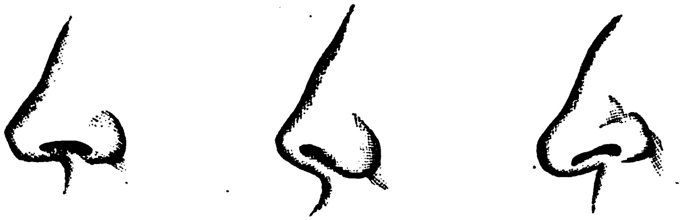

FIG. 208.—Horizontal. FIG. 209.—Upward. FIG. 210.—Downward.

THE THREE GENERAL OUTLINES OF THE NOSTRILS.

The downward line of the nostril (Fig. 210) indicates a melancholy, groveling, or malicious character. Any departure from a normal form, either upward or downward, in any feature, signifies a departure from the highest or most perfect method of action. These three classes of forms of nose will be treated at length in the pages which follow.

THE FORM OR OUTLINE OF THE NOSE.

Seen in profile the nose presents three basilar or general forms. All others are modifications or compounds of these primitive forms. In the outline of the nose and nostrils nearly all of the basic elements of Form are found, and when applied reveal characteristics in harmony with those laws. These three basilar forms of the nose are as follow: the concave or negative, Fig. 211; the straight or passive, Fig. 212; the convex or positive, Fig. 213.

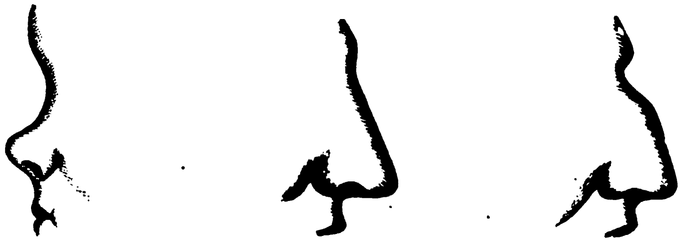

FIG. 211.—Concave. FIG. 212.—Straight. FIG. 213.—Convex.

THE THREE BASILAR FORMS OF THE NOSE.

The concave or rudimental nose is observed in all infants, in many immature beings, such as the commonplace, the feeble-minded, and idiots, and among many undeveloped races, as, for example, the Russian peasants, the Tartar, the Esquimau, the Hottentot, the Malay, the native Australian, and the Ethiopian.

THE CONCAVE OR IMMATURE NOSE OF THE ADULT.
NEGATIVE CHARACTER.

There are several forms of the concave nose observed in adults. One presents a concavity from the root of the nose to the end, where two apertures appear facing the observer, as is seen in the noses of animals. As the *arched* form, wherever observed, denotes power and energy, health and beauty, so the opposite form—the concave—ever indicates the opposite qualities. Let it be understood that the concavity of the nose, where the depression is found at the part termed the "bridge," or at the place that is usually highest in well-developed noses, is generally observed in combination with a very short, muscular, *turned-up sharp tip*. Where this is the case we have the most immature and the least developed of adult noses. Such noses do not indicate ability for command, nor even for much self-control. The energy of this class is mainly expended in opposition—in fractious, unreasonable conflicts, whenever its owner is willing to put forth any great amount of energy. It is this quarrelsome trait that has earned for this species of nose the term "pug-nose;" hence "pugnacity," the verb expressive of a quarrelsome disposition, harmonizes with this shaped feature.

There are many shades and grades of character represented by the nose which exhibits a marked depression at its centre. Its significance ranges all the way from simple dullness or feebleness of intellect, through lack of executiveness and self-control, to passive, patient, or inert, inoffensive behavior, without forceful, aggressive proclivities.

The *tip* of the nose must, in each individual case, be taken into account in reading character, as well as the concavity of the back of the nose. Some concave noses turn up bluntly, while others are inclined to be pointed; others still stand out from the plane of the face, and are indicative neither of rudeness nor of pertness. The latter class are seen in the faces of many excellent artistic minds, quite skillful in painting and music, yet not greatly executive, or with only very limited powers of command and self-control. This class are inclined to be matter-of-fact and plain spoken, are apt, when under the influence of anger, to be blunt, brusque, and thoughtless in speech, and are afterward sorry for the same. Of this short, concave nose Lavater remarks:—

> I have seen the purest, most capable, and noblest persons with small noses and hollow in profile, but their worth most consisted in suffering, listening, learning, and enjoying the beautiful influences of imagination; *provided*, the other parts of the form were well organized.*

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* Essays on Physiognomy, Lavater, p. 391.

Noses that are depressed at the root or point of junction with the forehead are not to be classed with the concave nose, *if the rest of this feature rises well above the plane of the face.* This peculiar depression signifies relative absence of will-power, and also want of muscle. From this concavity alone one is justified in saying that the *entire body* of the subject is relatively deficient in muscle. Concavity of any part of the nose indicates feebleness of the faculty of which that part stands representative. If the tip of the nose is depressed or rises only slightly above the plane of the face, the breathing powers are relatively feeble, and the knowledge of Human Nature and of other faculties is very limited. This is also one indication of short life, owing to the small size of the lungs. If the centre of the nose is concave, the character is lacking in energy and *executiveness*, and also in nobility, high-mindedness. The depression at this point would denote a very weak stomach, and this is one sign of short life. Thus it is shown that the application of the laws of Form applied to concave outlines reveals the conditions of feebleness and absence of true beauty. As a rule, noses that are depressed in the centre, so that they scarcely rise above the plane of the face, do not rise very high above any portion thereof, and the point or blunt end, where the nostrils are situated, is also not high, but where the central concavity is only partial we often find average length and height of the end. In this case the tastes seem to run in the direction of singing, or some other form of art. Although a high, broad nose is essential to the production of the most sonorous tones and of volume in singing and in oratory, I cannot recollect the face of any eminent singer or speaker whose nose is greatly depressed in the centre, for the nose and frontal sinuses are properly a part of the organs of speech, and are developed in proportion as the voice is powerful and the enunciation perfect. The nose of Henry Ward Beecher was short in proportion to his other features, but was high its entire length and *very broad.* The noses of many, if not most, great singers are very short, round, and muscular, the bones scarcely perceptible. These noses are also soft and flexible. This is essential to the *movements* of the *nostrils*, which in singing are very frequent.

The pug-nose of the Caucasian races is quite different from the concave noses of undeveloped tribes. The Tartar is said, by travelers, to have no nose at all, but "he breathes through holes in the face." All of the races whose noses are of this type have scarcely any elevation at the tip of the nose, and one can look directly into the interior of this organ from a front view. Among Caucasians, notably in the Celtic races, do we observe several modified forms of this peculiarity. It indicates lowness, brutality, animal passions, such as jealousy, spite, malice, vindictiveness, etc. These will all be figured and described in their order later.

Any departure from the normal standard of this form of the *nostril* is highly significant, and shows that the subject is more animal than mental, for when the nose retrogrades to the mere function of breathing, the less is it expressive of mental energy.

The concave or negative nose is *par excellence* the nose of childhood. In infants this form is normal, but when observed in adults it is always significative of *relative* mental immaturity. It is just the opposite of the convex nose, which is positive, forcible, and executive in character, the law of the arch here revealing the strongest capacities of mind. There are many varieties of the concave nose. The principal ones will now be figured and described. They are as follow: the embryotic, the infantoid, the immature, the idiotic, the snub, the pug, the *retroussèe*, and the singing nose.

The concave noses of all classes are principally cartilaginous or muscular. The straight nose is composed of nearly equal quantities of bone and muscle, the muscle slightly predominating; while the convex or positive nose shows more of bone than of any other elemental tissue.

EMBRYOTIC TYPE.

In following the order of the progressive development of the nose, it is proper that we examine this feature in its embryotic state; thence follow the course of its rise and progress through its several higher phases, as it rises up through the immature, the infantoid, and the artistic to the highest forms—the executive and scientific.

In the early stages of the embryon the nose is, as shown by evolution, merely two small pits or minute holes. Later, the nose resembles a short, thick, blunt, pug shape, which bears no resemblance to the pretty little nose of infancy, but does resemble more nearly the immature noses of some of the undeveloped races and peoples occasionally met in civilized races. Not until the full term of prenatal life is completed does the nose assume that peculiar infantoid form observed at birth. The above figure shows the nose of the embryon at about the sixth week of prenatal existence.

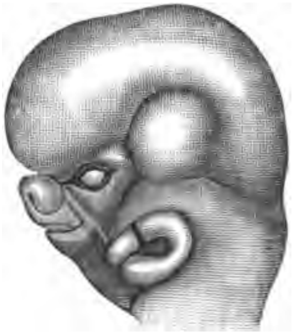

FIG. 214.—EMBRYOTIC NOSE. (After Haeckel.)

All of the forms of the nose within the concave class present one of the forms of the embryotic nose,—that is, shortness,—or one of the forms of the infantoid nose, viz., a depressed ridge or an upturned tip, and it is the presence of these peculiarities of structure that decides their relationship to the concave class.

INFANTOID TYPE.

(See Fig. 194, page 853.)

The noses of most infants present a concave form from the root to the point; others are concave or depressed only in the centre of the back of the nose. As age advances the depression becomes less marked, and as ossification of the bones ensues the back of the nose rises and assumes either a straight form or one in which there are several gentle inflections, or else one pronounced prominence, as seen in those noses which exhibit the sign for Executiveness large.

The noses of all newborn infants of all races present almost similar forms, but the infants of the most developed of the Caucasian race take on a more developed form quite early, generally at about one year old, while the offspring of the immature races retain a more or less concave shape throughout life. The noses of children do not assume their just and permanent proportions until the age of puberty or a little later, when perfect ossification of the bones takes place. Neither the bones of the nose nor the character has developed greatly until this process is completed.

The concave form is thus shown to be *Nature's method* of revealing undeveloped, immature, feeble, or non-mental conditions. This law will apply to all of those features whose normal form is full or rounded. Hollow cheeks, for example, betoken weak digestive powers; hollow forehead, poor reflective faculties; concavities of the sides of the nose above the wings, lack of Constructiveness; and so we may apply the law of the concave form indefinitely and never find it fail.

Observation of the progressive evolution of the nose of a child from birth to manhood is a most interesting physiognomic study. The changes observed in the forehead are perhaps the next most interesting and remarkable; the mouth and eyes less so, for the reason that they change least. The nose and forehead, being the features which are more indicative of *mental* power than the other features, naturally change with the progressive development of the intellect. They are also more *purely human* in their contour than the other features, if we except the chin; for, although this feature in its *perfection* is also *purely human*, we find that the lion has a fairly good rudimentary chin, and this feature approaches more nearly the shape of the human chin than does the nose of the Tartar or low Ethiopian that of the perfected nose of the Caucasian.

In the form of the nose of infancy there is nothing that is repulsive or ugly, as is the case with the noses of the lower classes of Russia, Tartary, China, and Africa. There is a congruity and harmony in the features of the infant which suit the immature nasal organ, but this is not the case with those adults who exhibit immature concave noses, for in their case the pretty infantile form is lacking, and a certain resemblance to *embryotic* forms is present. Again, their other features exhibit an adult form, hence the incongruity existing between the adult features and the immature nose makes the discrepancy between them seem very great.

Infancy is the *gristly* age, and all parts of the body and mind are plastic and yielding, and this flexibility is due to the immaturity of the tissues primarily.

IDIOTIC TYPE.

Many idiots and feeble-minded beings retain through life the infantoid form of nose, and they remain mentally in an immature, undeveloped condition. And this form of nose is, in their case, only one of the many signs of mental feebleness. The walk and movements of the body, hands, feet, and head participate in the general degradation of mind. The walk of a partial idiot is characteristic, and his lack of *mental equipoise* is disclosed by his physical inability to walk and balance himself in a normal manner. There are many idiotic and feeble-minded beings who have become such by accident during prenatal life. Many of this class exhibit a normal-shaped nose, while others who have become feeble-minded after birth, through disease in infancy, present quite a well-formed nasal organ. Such a variety of causes contribute to produce idiocy which do not tend to produce the concave nose that it cannot be said rightly to be a characteristic type of idiocy unless it should be merely rudimentary, lying level with the cheeks, and with but slight apertures for nostrils. Then its form indicates the utter absence of all mental perception. Arrested development of the embryon would be almost certain to produce this form; so, also, is it likely to appear in the countenances of offspring born of parents suffering from consumption and other depleting disorders. In examining the statistics of homes for the feeble-minded and idiotic I learned that large numbers of the inmates were the offspring of

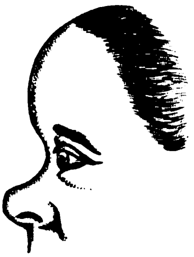

FIG. 215.
IDIOTIC NOSE AND FOREHEAD.

consumptive parents, while another large proportion were the progeny of mothers who had suffered great domestic misery while pregnant. In one case physical defects and feebleness caused idiocy; in the other, mental anguish produced it.

Some idiots exhibit very large noses. In those cases the *form* of the nose shows absence of intellect. In this state it is a huge *physical organ.* The celebrated "Aztec children," so called, who were really partial idiots, had very large noses,—so large that they formed the larger part of their faces, but were placed at such an angle with the face that their abnormal character was at once apparent. I have observed among idiots many large noses, but in some instances these subjects became idiotic by accident or disease after having been born normal. Yet those who are characterized by an uncommonly large nasal organ exhibit their lack of intelligence either by the peculiarities of its form or by the *position* it assumes in relation to the other features. These noses are exaggerations of the normal size, and all exaggerations betoken abnormal conditions. They are really *caricatures of Nature.*

SNUB TYPE.

The snub-nose, with its numerous varieties, is to be classed with the concave nose, inasmuch as it expresses *relative* immaturity, although of a higher grade than the primitive or infantoid type. The back of this nose may be straight and moderately long, yet have a blunt end turned forward or outward to the beholder, and presenting an interior view of the nostrils. There are several varieties of the snub-nose that may be analyzed. The flattened snub-nose exhibits quite different characteristics from the snub-nose that is not flattened at the centre of the back. Lavater remarked these differences, for he observes that

> A hundred flat snub-noses may be met with in men of great prudence, discretion, and ability of various kinds, but when the nose is *very small* and has an inappropriate upper lip, or when it exceeds a certain degree of flatness, no other feature or lineament of the countenance can rectify it.*

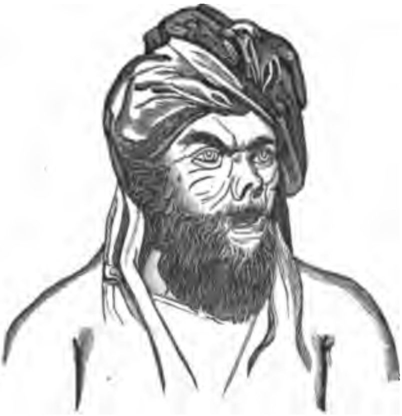
FIG. 216.—SNUB-NOSE. (After Lavater.)

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* Essays on Physiognomy, J. C. Lavater, p. 478.

A snub-nose that is not depressed at the bridge, and that has average *width* its entire length, is indicative of more energy and intelligence than the flat snub-nose; yet this form is inclined to be despotic. No two snub-noses are alike, but each presents individual differences to which the character responds, yet the *general laws of form* apply to them as stated, and these laws show all classes of the snub-nose to be *relatively undeveloped;* not by any means idiotic,—far from it,—but revealing much less executive power and less logical ability than noses that are high, broad, and *long*, for length is a most important factor in the development of the nose. Very short, thick noses, no matter how high, do not reveal great logical powers, for muscle is their dominant tissue, and for logic and reason we must have a *certain amount of solid tissue*, and the dominance of the bony system tends to lengthen the nose, while muscle tends to shorten and widen this feature.

A snub-nose, with small and narrow nostrils, is the indication of feeble physical as well as of *dull mental* powers. If the nostrils are large and round with the snub-nose, there is more vigor of mind and body than with the former.

PUG TYPE.

This form of nose has many diverse meanings, depending upon the shape of the upper part in each case for their full significance. Then, too, the interpretation of character is in consonance with the peculiarities of the form, whether it be a rounded blunt pug or a sharpened narrow pug. In regard to its meanings, it indicates lowness, coarseness, or commonplace mentality. If it be relatively sharp the character is more acute and the subject quicker in his perceptions than where a *blunt pug* is exhibited, yet all of this class of noses have the same general meaning in absence of reasoning power, pugnacity, irritability, quarrelsomeness, and opposition. With the blunt pug a coarse, brusque temper is associated, and its possessor speaks in a short, blunt, and sometimes

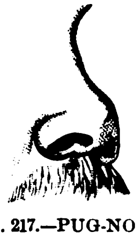
FIG. 217.—PUG-NOSE.

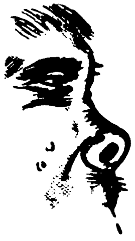
FIG. 218.—BLUNT PUG-NOSE.

brutal manner, while the sharp pug accompanies a sharp, fretful, scolding, contrary disposition.

Many of the principal pugilists of the world exhibit one or the other of these formations. Heenan, the great (?) American prize-fighter, has the blunt pug-nose, while Tom Sayers, the English champion, shows a decidedly sharp pug. For example of the several styles of the pug-nose, examine the portraits of Dan. Collins, Tom King, and James Mace, all prize-fighters of renown. These two forms of the pug are common among the Irish peasantry, and are probably the result of years of impoverishment and absence of all educational and refining influences, together with want of proper food and homes. That this is the cause of this moral and mental degradation is proven by the fact that the higher and more comfortable classes of that race exhibit more finely-shaped noses. The pug-nose classes of Irish and of other races are quarrelsome and low-minded.

Nearly all pug-noses are more or less concave in their outline. The lower the concavity, the lower the character, morally and mentally, and the weaker the stomach. This form shows an entire absence of Veneration and Executiveness,—both elevating traits.

The pug-nose is never found associated with the highest moral and intellectual character. Thus, *form* alone becomes the indicator of *grade* as well as of faculty.

The sharp pug must not be confounded with the nose termed by the French *retroussèe*. This is quite another form, and betokens quite different traits.

The blunt pug is quite common among the lower classes of England, and the characteristics of this people correspond to this form of nose. The sharp-pointed pug-nose is more commonly seen in the physiognomies of the French, Irish, and other Celtic races. I have observed many excellent artists of various departments of art with the pug-nose, the upper part of which was of an average height. Yet these noses could not properly be classed with the straight or convex nose. They are the highest variety of the concave noses, yet are rarely accompanied with a high grade of *abstract reasoning power*. The sort of analytic power such noses reveal is the sort applicable to art subjects and objects, and not the kind necessary to abstract ideas.

RETROUSSÈE TYPE.

The French word *retroussèe* means literally "turned-up," but, as this word or any other in our language fails to describe the *precise form* of this class of noses, I have no other choice but to apply this term, as do the French, to a variety of the concave nose, which is indicative of more refinement, wit, and brightness than any others within the concave class. I place it in this class because those who possess it exhibit the inquisitiveness, vivacity, and abandon of childhood, along with a spice of arch coquetry which is not at all infantile.

In deciding as to which class a nose belongs, we must have in consideration the *form* of the tip, and the form of this part assists us to readily classify each special one under consideration.

All noses that are in any way "tip-tilted" must be assigned to the concave class, as the main characteristic and configuration of the outline will, upon close scrutiny, show them to be of the infantoid order; the *turned-up tip* being the evidence of the class to which *Nature* has assigned them.

The *nez retroussèe* is frequently observed presenting a certain degree of depression of the ridge. The depression varies from a decided *scoop* to a slight deflexion of the back of the nose, terminating in an upward curve at the tip. It is met with in many interesting characters.

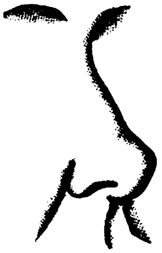

FIG. 219.
THE NEZ RETROUSSÈE.
(ELLEN TERRY.)

It is quite commonly observed among French women particularly, although we find it in the countenances of numbers of people among all the civilized races.

The characteristics accompanying it are shown by a quickness of perception and impulsive curiosity, especially in regard to Human Nature. This combination gives to its possessors an apt comprehension of motives and a facility at repartee, which in a refined woman is quite charming, piquant, cunning, witty, and altogether fascinating. With those of less refinement the wit degenerates into pertness, sauce, and impertinence. The curiosity takes on a vulgar phase, and although those in this class may be very entertaining *in their own circle*, they are far from being agreeable to persons of cultivated tastes. A *retroussèe* nose, with a fine quality of skin and hair, indicates high quality, while coarse hair and thick skins would denote relatively less fineness. The sharpness of the slightly turned-up point indicates penetration and curiosity, and if the tip of the nose stands high above the plane of the face, a fine development of the faculty of Human Nature is present.

Sharpness of any feature denotes *keenness* of the trait of which that feature is representative; for, as often observed in these pages, forms convey their own meaning if their natural significance is understood. Now the lobe or tip of the nose, when well developed, denotes high powers; if it is broad, the faculties there represented are powerful and permanent; if sharp, they are more acute and not so permanent as the former; hence sharp-pointed noses denote more acute powers, but less stable ones. It is this capacity for rapid change of subject which gives such novelty to the conversation of the owners of the *nez retroussèe*. Many comic actresses exhibit this nose, and are noted for their droll, arch, and mirth-provoking manner and speech upon the stage. Aimèè had one variety of this type. The physiognomies of Lotta and Nell Gwynne present two varieties, and many others on the mimic stage prove that this form is allied to the sharp, witty, penetrating faculty. Voltaire had a sharp-pointed nose, though not turned up, and his wit was caustic, mirthful, and penetrating to that degree that he held the superstitious theologians of Europe at bay for over fifty years by means of his pungent pen and voice.

The *nez retroussèe* is never found associated with very decidedly strong intellects, but belongs rather to the more volatile, artistic, and amusing class of minds. Solid minds have solid noses, composed of firm material; hence a bony nose announces a firm, substantial character, while the soft, gristly, cartilaginous nose tells us of art, motion, emotion, variety, changeability, etc.

SINGING TYPE.

The true singing nose, or the form best adapted to this art, is a modification of the concave, although it is not always concave; yet it belongs more to the undeveloped class *mentally* than to any other, hence I must consider it as belonging to this form in a comprehensive arrangement of the nose. A short, round nose, either straight in its outline or very slightly concave, is found in the countenance of many excellent and powerful singers. This is so general as to be almost without exception, and warrants us in applying the term "musical nose" to this form. It cannot be termed a snub-nose properly, but may in some cases be called a pug-nose, owing to the shortness, slight concavity, and width of the tip. Examine, for example, the noses of Hans von Bülow, Annie Louise Carey, Emma Abbott, Minnie Hauck, Sir Arthur Sullivan, and Sofia Scalchi, and the idea of this form will be comprehended. It may be set down as a rule that all powerful singers have relatively short noses. It could not be otherwise and give the area required for producing sonorous tones, for the *lower third* of the face

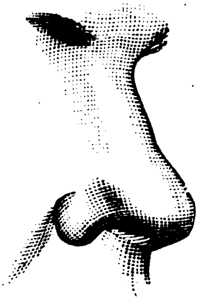
FIG. 220.
SINGING NOSE.
(ANNIE LOUISE CAREY.)

must have the *space* for this purpose; hence many first-class singers have a large endowment of the vegetative system, and it is this system *largely developed*, with the muscular system *dominant*, which gives the *length* and *width* of the lower part of the face so necessary to produce powerful tones. The uncommon length of the faces of singers from the tip of the nose to the point of the chin gives height to the roof of the mouth and fills out the cheeks; thus they have the two dimensions so essential to volume, viz., height and width of the mouth-cavity.

Another essential factor in producing softness and mellowness of tone is a sufficiency of the softer tissues, and these cannot be produced where the bony system is dominant. Bony individuals cannot bring forth as melodious and sympathetic tones as can those who combine the muscular with the vegatative system. Madame Parepa Rosa was a notable example of this combination. There are many other eminent singers who approach her form very nearly.

The muscular system must be one of the most developed systems of the body, in order to create a rich, mellow, and strong voice, and as the dominance of this system *shortens the nose*, so shortness of the nose becomes one of the signs of a musical endowment. Where the osseous system *dominates*, the bones of the nose are longer than with the preceding, and hence there is less room *below* the *nose* for producing powerful tones and less richness of quality, owing to the non-resonant nature of bone. Muscle alone has the quality of resonance and elasticity. Bone assists reverberation, as in the sinuses, and in the ear the petrous bone, as well as the three small bones, the incus, the stapes, and malleus, assist the reception of sound in a manner which will be elaborated when the ear is analyzed. I believe the reader will have no trouble to confirm all of this analysis by reference to the physiognomies of any number of good singers taken at random.

A purely singing nose does not express great mental powers, for those exhibiting large reasoning faculties must have the stable assistance of bone; yet many singers show average intellectual and some commercial ability, while many remain in a comparatively childish state of mind. Their mission is *vocal*, *not mental*, and the good singer is able to make thousands of people happy who can think well but who are not so constituted as to be able to entertain with their voices, as do the world-renowned song-birds. Singers, as a rule, are like children in their gayety and joyous dispositions. They are also *easily* pleased and as easily affronted. They are fond of pets and ornamental attire and surroundings. They possess domestic tastes, although often compelled by the exigencies of their profession to wander far from home; but they always carry their pet animals along, and so set up a home with them at every hotel where they may chance to stop.

STRAIGHT CLASS—PASSIVE CHARACTER.

General Observations.—The straight nose is characterized by a perfectly straight outline of the back its entire length, from the root to the tip. It presents no undulations except at its junction with the forehead. It differs slightly from the so-called Greek nose; the latter descends in a perfectly straight line from the forehead to the tip of the nose, without the slightest incurvation at the root, and this very minute modification at this place denotes very great differences in character. The straight nose indicates refinement, sense of fitness and propriety, æsthetic tastes, art-capacities, and a certain degree of sensuousness. If the nose be long and broad, as well as straight, the mind inclines to philosophy, as well as to polite literature, the *belles-lettres*, and the art side of literature, such as poetry, essays, etc. Those with this combination are politic, polite, and inclined to voluptuousness and the enjoyment of the senses. The characters of those with the straight nose, then, will exhibit some one or more of the following tastes and proclivities: Amativeness, refinement, good taste, æstheticism, love of poetry and fine literature. They are usually mathematical, and with a good brain in combination are fond of philosophy.

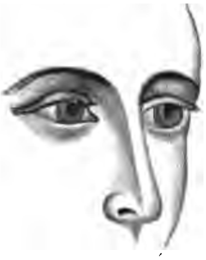

FIG. 221.—GREEK NOSE.

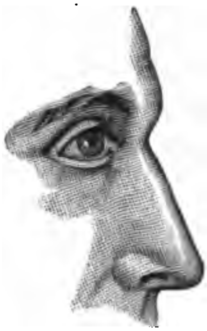

FIG. 222.—STRAIGHT NOSE.

If the nose be relatively short and thick, as well as straight, the tendencies are toward art or ornamental work, such as embroidery, lace-making, etc. This form of nose is *constructive* mainly. I have seen it in the physiognomies of some excellent housekeepers who exhibited great taste in house-decoration and in the ornamentation of clothing, as well as in the tasteful arrangement of table-equipage and the furniture. It is not so inclined to high art, literature, and philosophy as the *long* and *straight* nose. The latter finds representation in the countenances of David Hume, Sir W. Herschel, Lavoisier, D'Alembert, Napoleon, Milton, Byron, Mrs. Hemans, Murillo, Voltaire, Sarah Bernhardt, Mdlle. Rachel, Madame Modjeska, Adelaide Neilson, Raphael, Louisa Alcott, T. B. Aldrich, and Björn Björnson. A small, short, and narrow straight nose denotes much less power than a *long*, *broad*, *and straight nose.*

The straight nose does not display the forcible, *aggressive character* which is exhibited by the convex nose, yet it is indicative of a great degree of *Self-will*, and those with this nose possess power for pushing forward any work which their taste prompts them to undertake.

Nearly all the members of the celebrated Beecher family possess the straight outline on the back of the nose, and they are broad as well, and this accounts for the energy with which they pushed their ideas and projects to success. Catherine Beecher, in one of her books, wrote that "if circumstances were against us we must create circumstances." Now, this might be possible to one with strong self-will, but it is not so easy for the negative character to compass. She made the mistake so common to human beings, of thinking that others can work with their individual wills.

Many singers exhibit straight noses, and some composers also. Among these may be mentioned Franz Abt, Robert Heller, Beethoven, Handel, Virginia Gabriel, Minnie Hauck, Scalchi, Emma Abbott, Sontag, Grisi, Persiani, and Gerster. The noses of the above-named singers are short, while those of the composers are relatively long.

In order to understand the significance of the straight nose one must take into consideration its length, width, and size. No matter how small the nose, if the outline describe a straight line there will be a taste for ornamentation and a certain degree of refinement, if nothing more. If it be long and broad the intellect is on a larger scale, and will exhibit literary, philosophical, mathematical, or architectural powers. Some noses reveal the presence of many of these talents, while others denote only one or two of them.

The straight line, as a basic element of Form, finds normal representation in the human face in two features, viz., in the mouth and in the so-called Greek nose, and in all of these features the *muscular* formation is the cause of this peculiarity of form; and as the straight line, wheresoever found, is indicative of truth or normalcy, so we may infer that the nose which presents a straight outline its entire length, from the root to the tip, is in a certain sense the indicator of one form of truth, viz., the art side of truth, as illustrated in architecture, numbers, and the power to produce perfect curvation. All noses that present a straight outline upon the back denote artistic or æsthetic tastes and capacities. The forms of *other parts* of the nose and the *quality* of the subject must decide which phase of art is indicated, and the power or rank which he holds in the realm of art. Now, all classes of noses may be straight,—that is to say, set squarely in the centre of the face without turning either to one side or the other,—but at the same time all are not straight in their outline, hence cannot be classed with the straight or Greek nose. So, also, the Greek nose may be long, short, or medium. In each of these classes it combines with its art-nature the quality attributed to each of these lengths. A very *long and straight nose* will show more conservatism and foresight than either the medium or short nose with the same outline.

The title of "Greek" is given to the straight nose for the reason that this is the form almost universally observed in the classic works of the great Greek artists. It is seen in their grand statues, bas-relievi, medals, bronzes, coins, etc. On this point Lavater, quoting Winkelmann, writes thus:—

> The forehead and nose of the Greek gods and goddesses form almost a straight line. The heads of famous women on Greek coins have similar profiles, where the fancy might not be indulged in ideal beauties. Hence, we may conjecture that this form was as common to the ancient Greeks as the flat nose to the Calmuck or the small eye to the Chinese. The large eyes of Grecian heads support this theory. If only one such countenance, however, had presented itself to the genius of art, it would have been sufficient for its propagation and continuance. This is less our concern than the *significance* of such a form. The nearer the approach to the perpendicular, the less is there characteristic of the wise or graceful; the higher the character of worth and greatness, the more obliquely the lines retreat; the more straight and perpendicular the forehead is, the more does the upper part of the forehead approach a right angle, from which wisdom and beauty will fly with equally rapid steps. In the usual copies of those ancient lines of beauty I generally find the expression of meanness, and, if I dare say so, of vague insipidity; I repeat—in the copies.*

The full and straight nose, which, in classic figures, represents grandeur, can be made to represent meanness and insipidity by a slight diminution of the *fullness*.

The causes which impelled the almost universal use of this outline by the Greek artists are founded in the *very nature of their own forms and minds*, and are as cogent as they are instinctive. It is a law of human nature that each individual is best able to reproduce in his own works the principles and forms which are most strongly represented within his own organism,—within his mind as well as within his body. Now, the ancient Greeks were a muscular race, and, as I have shown throughout these pages, the muscular system is founded on curves and elasticity (the qualities essential to art-work); and, as the straight nose is one of the signs of muscular supremacy, therefore the straight outline of nose must have been quite common among them, and it is thus the representative of art-capacities. They had, then, a double reason for reproducing it in their works of art. They used it *instinctively* and irresistibly as an *unconscious outworking of their own forms*, and they *imitated* the forms of their greatest artists, philosophers, architects, and mathematicians in their attempts to illustrate the grandeur of the human physiognomy as exhibited in the faces of their most talented men and women.

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* **Lavater's Essays, p. 312.**

The *normal* outline of the straight nose describes a *slight incurvation* at its junction with the forehead, for, says Lavater,

> Without a slight undulation at the root *no nose* can be physiognomically *good or great.*

Now, this particular form of straight nose is observed in profiles of many of the ancient Greeks, as figured on coins and bas-relievi, while some are of other diverse forms, proving that a great *variety* of nasal forms existed among them, as is the case in all highly-developed races. The perfectly-straight line observed in the descent from the forehead to the nose, as seen in their ideal statues portraying heroes, gods, and goddesses, is an *exaggeration* of their own most customary form of this part of the physiognomy,—an unconscious attempt to create divine grandeur by exaggerating human greatness. Now, as I have shown that all exaggerated forms denote abnormal or unbalanced tendencies, so we shall find that those persons who exhibit this particular form of nose also exhibit unbridled *will*, and this argues great *stupidity*, for he who uses his selfish will excessively does so because he *lacks intelligence*, *benevolence*, *or reason ;* hence he is wanting in one or more of these faculties, and the presence of the straight line in other than its *normal place* announces at the *first glance* the absence of good sense and the presence of blind, selfish will.

The significations of form, it is thus shown, are very involved and very subtle, one signification involving another, and this a third, and this a fourth, and so on and on, until we reach the *basic* principles of the form in question, when the signification of the form thus analyzed is revealed in accordance with the supreme and unchangeable law of Form, which comes up to us through all of Nature's work, from the microscopic cell to the revolving planet.

An examination of the physiognomies of the Apollo Belvidere, by an unknown sculptor, the Olympian Jupiter, the Minerva of Phidias, the Laocöon of Agisander, and the numerous statues of Venus by Greek artists, shows the descent of the nose from the forehead in an uninterrupted straight line. The reasons for thus portraying grand and divine character by an exaggeration is variously accounted for by different writers. Those who take the art-view merely, without knowledge of the true scientific *interior* meaning of this outline at this part of the physiognomy, of course commend it; but Lavater and one or two others criticize it from the physiognomical stand-point, hence they do not favor it as an expounder of fine character. Lavater says that "Nature in all her works abhors straight lines." Now, Lavater, having never arisen to a *scientific* knowledge of the basic principles of Form, makes this assertion without explanation—in a dogmatic manner. This assertion is true only when applied to features and members whose *normal* form is other than straight; as, for example, if the line of descent of the nose from the forehead be perfectly straight it is an abnormal development and reveals undeveloped or ill-balanced characteristics, as previously shown. The normal form of the line of closure of the mouth is characterized by a straight and horizontal line; any other form of this feature is not normal. This straightness of this line proceeds from the muscular development of the mouth, which should be so shaped as to draw *equally* in *all directions*, and when relaxed cause perfect straightness of the line or fissure. The straight outline of the nose always announces the dominance of the muscular system—or at least that it is *one* of the signs of a good development of that system. So, also, the perpendicular forehead tells the same story. All these straight lines, it is true, must have *straight bones* underneath the muscles in order to produce that perpendicularity of the forehead and nose, and this is why I said in the beginning of this analysis that the straight nose represented the *art side of truth.* With this formation of the nose and forehead a curved lower jaw-bone is always found combined. This is most decidedly apparent in the Greek physiognomies, as well as in the countenances of many modern poets, actors, and dramatic writers. It is this form of jaw to which I have given the name of the "dramatic jaw." It is observed in the physiognomies of many talented persons, and all who exhibit it possess either talent or taste for dramatic representation either in poetry, fiction, upon the stage, or in real life. Given a straight outline of the nose, and the dramatic, artistic, philosophic, mathematical, creative, or constructive capacities of the character are at once revealed in varying degrees, from a slight taste for these arts up to great genius.

The dominance of the muscular system always produces large, convex eyes, and this denotes linguistic power. Language was one of the greatest talents exhibited by the Greeks, and the fame of their orators has come down to modern times undimmed by the lapse of ages.

Although straightness of the muscular system, as represented by the straight nose, discloses the art side of truth, yet it is not so indicative of the *highest* integrity as that perfect straightness of the *bones* which is exhibited in that subject in whom the osseous system predominates. The *flexibility* of the muscles argues easy change of position not only, but easy and facile movements of the limbs, and where muscle *dominates* it creates an *inclination* to change opinions often—to shift and turn; hence, philosophy, policy, and suavity are especial attributes of those with the muscular as one of the supreme systems; therefore, the most consistent, steadfast, reliable conduct cannot be expected of this class of minds. Says Jebb:—

> The Greek idea of human perfection was a wise mind in a beautiful body; good counsel joined to noble action. Noble action is pre-eminently represented by Sylla, good counsel by Odysseus. Odysseus is brave, but he is especially the man of subtle intellect and ready resource. It was a grave fault of the Greeks that they cared too little whether that quickness of wit which they so much admired was or was not *honest.* It is not strange that the noble Homeric conception of Odysseus should have been lowered by later Greek poets, who, dwelling chiefly on his subtlety and sensitiveness, made him an unscrupulous knave, reckless of everything except personal gain.*

It is thus shown by the greatest literary work of the Greeks that their idea of morality was dominated by their sense of wisdom and beauty.

The Greeks, having been more marked in the development of muscle and brain than any other race, afford us a grand field for the analysis and knowledge of what sort of character this combination produces. The best test of character is its *outcome* or *results.* Now, the works of the ancient Greeks have come down to us in the form of philosophy, mathematics, logic, language, oratory, the drama, sculpture, architecture, and fine literature.

> Their chief types of poetry are the epic, lyric, and dramatic, while the chief types of prose are the historical, philosophical, and oratorical.†

This whole class of knowledge indicates the *creative energy* of a race in whom the muscular and brain systems are regnant, and the ascendency of these systems produces long, broad, high, and straight noses, as seen in the physiognomies of many of our modern philosophers, poets, artists, and architects, as well as in the models of the same classes of people among the ancient Greeks. The Greeks, like all muscular people, exhibited the play of the softer emotions of love and sensuousness, as well as the stronger emotions of rage, cruelty, and revenge. Their gods were a reflex of their own minds magnified, for they represented them not only as colossal in size, but portrayed their loves and hates upon a grand scale. Greek mythology reveals this reflected character in all its descriptions of the imaginary gods, goddesses, fates, fairies, and demons with which it abounds. Now, the free play of the emotions is not conducive to morality; they require an *elastic material* for their exhibition. Morality, on the other hand, must have a more stable material to represent it; so, also, must it have a calm, reasonable condition of mind to conserve it, and the highest reason and morality are found best exhibited by those in whom the bone and brain systems are supreme; hence it is that the Greek idea of morality was not so high as that which obtains in those races which evolution has brought up to a higher state of structure. I do not mean to state that muscular people are not moral; simply they are not so "rigidly righteous" as those with more hard material in their organisms. Emotional religions best suit and hold them to moral law.

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* Greek Literature, R. C. Webb, M.A., p. 25.

† Jebb.

As philosophy (questioning) precedes the *discovery* of laws, so it was necessary in the evolution of the world's progress that philosophy should precede science. The present age ushers in the dawn of the scientific age—the era wherein the discovery and demonstration of natural, *positive* law is made. For this purpose another class of beings are required; not so beautiful, curvilinear, creative, imaginative, emotional, and artistic as the Greeks, but possessed of more solidity, morality, conscientiousness, and *squareness* than they; hence, we find in this age that the supremacy of the *bone* and *brain* systems gives the sort of forms essential to the discovery and comprehension of *positive law*, for natural law is founded in truth, justice, and equilibrium. Were it not so the world could not revolve and life could not continue. Examine the personality and physiognomies of the majority of modern eminent scientists and mechanicians, and we shall find the osseous and brain the supreme systems. The result of this combination is observed in the numerous and wonderful inventions, and in the discovery and application of natural laws and forces to the world's needs and for its progressive evolution. This change is shown in the human physiognomy by a different shape of the nose, for scientific noses differ not only in the *form* but in the *material* composing them. They exhibit much less muscle and relatively more bone—*less beauty* according to art-standards, but more *solidity*, *integrity*, and *morality*. This class of noses will next demand our attention, for the transition from muscle to bone is the physiological order of development, and it should be our endeavor to always follow Nature's footsteps in our methods of investigation.

POETIC TYPE.

One of the most beautiful types of the straight nose may be justly termed the poetic, inasmuch as it is the distinguishing outline of the noses of many of the most eminent poets of all ages and all nationalities. In them it denotes that the muscular is one of the dominant systems, and in combination with a sensitive brain system it affords the requisite mechanism for poetic expression. It is often observed that many of the straight-nosed poets possess a soft, rounded, and dimpled chin, also a curved "dramatic jaw"—all indications of the presence of a fine degree of *round muscle*, the highest factor in linguistic and emotional expression. No mere brain, even of the highest quality, unaccompanied with fine muscle, could create the wonderful poetry of Byron, Shelley, Dante, or Rosetti. Let the reader examine the noses of Shakespeare, Tasso, Chaucer, Tennyson, Burns, Pope, Corneille, Cowper, Elizabeth Barrett Browning, Akenside, Dryden, and other poets, and he will become convinced that the straight outline of nose is one of the salient hieroglyphs of a poet's physiognomy. The student should not overlook the large eye and arched brow characteristic of most poets. These all announce the muscular as one of the dominant systems so necessary to this dramatic and emotional class of beings. Let it be remarked also that all of these noses are long, relatively high, wide, and well developed at the tip, where the signs for Analysis, Mental Imitation, Ideality, and Sublimity are situated; also that Constructiveness fills out the sides, and thus shows that the principle of mechanism, so necessary to creative thought as well as to material creation, is present in all great original and inventive minds.

ARTISTIC TYPE.

So many eminent artists of all ages and of all races have exhibited the straight outline of the nose that we are perfectly justified in placing them in this class of noses. How could it be otherwise, when we consider the *nature* of muscle and all that inheres in its potentiality? Art is founded on *curves*, so is muscle; hence the peculiar adaptation of the latter to the former. I use the term *art* in this description to designate painters more particularly, although in its most comprehensive sense it includes many who use muscle as the basis of their art-works. Great painters must possess a fine quality of nerve and brain. They must be keenly alive to all external sensation, as well as highly susceptible to internal promptings, to vivid imagination, and to sublime emotions, and a color-sense that thrills and permeates the entire being. Such beings carry the signs of all these lofty traits in the nose, as well as in the eye and other parts of their physiognomies. No observant person can overlook them. The intelligent and penetrating glance of an Angelo, a Giotto, a Fra Angelico, or a Raphael, could not fail of arresting the attention of the observer. Their portraits, which have come down to us from the ages, reveal a glance at once bold, original, penetrating, observant, and sensuous —all concomitants of an artistic mind.

To come down to more modern times, and look upon the living countenances of a Doré, a Vernet, a Munkacsy, a De Neuville, a De Haas, or a Greatorex, we shall find that they are characterized not only by the straight outline of nose, but also give evidence of æsthetic taste and creative power in the eye, upper lip, and lower jaw, as well. In all great or even good countenances there is stamped Nature's unmistakable record of power. It is only necessary for us to know *how* these very remarkable evidences are shaped, and *where* situated, for children, even, to be able to point them out.

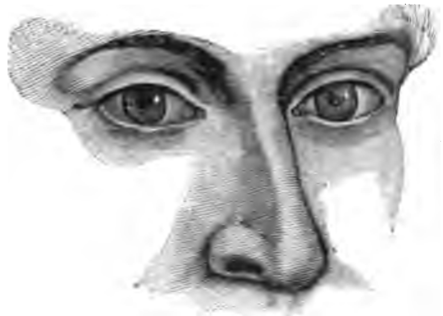
FIG. 223.—ARTISTIC NOSE. (MURILLO.)

The length of artistic noses varies considerably. The most original, the grandest of all, such as those exhibited by Michael Angelo, Rubens, Titian, and Raphael, and other great *creators*, are very long, as well as high, broad, and straight. The creative artist in any branch of art must have a broadly-expansive mind, hence we find in this class large and long noses. Copyists—those who are excellent painters without great original genius—exhibit noses relatively short; some are of the "pug" order,—short, round, thick, and constructive, somewhat like the "singing" nose; but where there is *true greatness, originality, or genius*, the nose by its size and form announces this fact, and the eye by its brightness, and the skin by its fineness, and the muscle by its development and flexibility, all combined, corroborate and accentuate the high significance of the nose. The utmost accuracy in painting is required in that class who depict the human countenance from the living subject. One might say with truth that this is certainly the highest, as it is the most difficult, branch of the art. It certainly is the most abused, for good portraits are scarce indeed. In this department of art imagination is not so essential, but a keen eye, large Form and Size, Human Nature, accurate observation, fine color-sense, Analysis, and Conscientiousness are needed to give fidelity and thoroughness to the work; a fine mingling of the artistic elements of character being required in this department of art.

Many parts of the organism present corroborative signs of the artistic capacity. The wrists will be round and flexible; the bones hidden by muscle; the fingers inclined to taper, and the joints not conspicuous; the forehead rounding at the temples; the eyes large and full; the face inclined to the oval form; the body and limbs round and muscular; the instep arched; and the feet relatively short, broad, and thick.

LITERARY TYPE.

Among the various departments of art as exhibited by straight-nosed people are very many literary characters to be found. The class of literary taste and talent displayed by this formation is mainly dramatic, fictitious, poetic, and classic. These various types are exhibited in varying degrees of power in accordance with other indications observed in the subject.

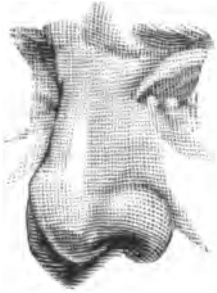

FIG. 224.—(DICKENS.)

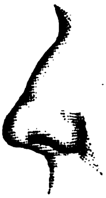

FIG. 225.—(OUIDA.)

TWO FORMS OF THE LITERARY NOSE.

In order to discern the peculiar class of literature for which one is best adapted, the entire form and size of the nose must be analyzed, as well as the eyes, the jaws, and other features. With the dramatic jaw in combination the mind will be turned to dramatic representation, as we see in Byron, Milton, Racine, Corneille, and Joanna Bailey. If classic tastes are present, the nose and other features will present forms similar to those of Addison, for example.

Fiction being always more or less dramatic in its nature, finds representation in many diverse types of nose, yet nearly all coming under the head of the straight nose, or some one of its many modifications. Examine, among the highly dramatic, the following among modern writers: Charles Dickens, William Black, Miss Thackeray, George MacDonald, Thomas Hardy, Walter Besant, Mrs. Trollope, and Wilkie Collins. Among writers of the modern classics the noses of Madame de Staël, Thomas Babington Macaulay, William Ellery Channing, Ruskin, and Carlyle disclose the talent and taste for fine literature, which is well illustrated in their works.

The poetic nose has been amplified elsewhere. The nose of each of the above-mentioned persons may be classed with the "straight" class, yet are of different lengths, size, and development about the bridge, sides, and tip; and all disclose varying degrees of Constructiveness, Imagination, Sublimity, Analysis, and Mental Imitation,—all essential faculties to the *littérateur*.

CRITIC'S TYPE.

In this illustration the nose represents, at its point particularly, the nose of a natural critic. It is divided at the point by an almost *invisible cleft*. The minds of those who exhibit such a nose are critical, keen, and penetrating; they will manifest ability to criticize intelligently all subjects which their combination of traits are best adapted to comprehend.

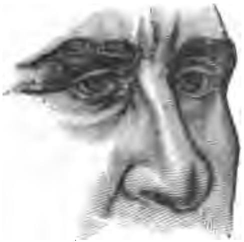

FIG. 226.—CRITIC'S NOSE.
(IVAN TOURGUENIEFF.)

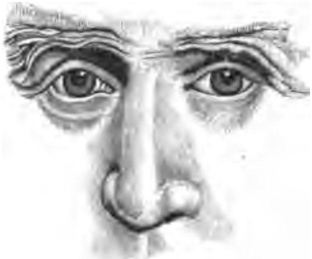

FIG. 227.—PHILOSOPHIC NOSE.
(LORD ELDON.)

PHILOSOPHIC TYPE.

The purely philosophic nose, when talented, is distinguished by such combination of bone and muscle as to give height, length, fullness, or a rounded form to the outlines, and with a dominance of the muscular tissue over the osseous. Such noses belong to the artistic class, for philosophy is an art, not a science, and its best exponents are artists in thought and expression, and most largely developed upon the art side of their natures. Their writings, when tried by the rigor of scientific law and exactitude, often fail; such was the case with the theories of many of the ancient Greek philosophers, such, for example, as those of Xenophanes, Zeno, Heraclitus, Empedocles, and others of that era. That their philosophy was only an art and not founded on a scientific basis it is only necessary to mention the fact that none of their theories are now in use; they have not succeeded in holding a place in modern thought. If their philosophies had been based upon *demonstrable fact and natural law*, they would be now eminently influential. A good thinker has remarked that "a law once demonstrated is good for all time," and laws which are demonstrated by the operations of Nature will outlast all the vicissitudes and mutations of time.

Now, great philosophers are endowed with a capacity for reasoning, yet, as the muscular system usually dominates the osseous, it is not essential to them that they have *truths* to reason upon; it is with them a species of mental gymnastics, and they are ready to reason upon any premise if it happen to strike their fancy—for fancy and imagination play a great part in pure metaphysics; accordingly, we find in the philosophic nose the straight outline, and this gives the art side of truth and an ornate style of elaborating a subject.

Philosophic noses bear a strong resemblance to poetic noses and a certain type of the painter's nose, and in essence the philosophic mind partakes of both these natures and often exhibits an imaginative, speculative style that borders on the romantic, and which cannot be always proven by the facts of Nature. The busts of Plato reveal a first-class philosophic nose.

In modern times we find this form showing forth in the physiognomies of divines, lawyers, poets, and others of the artistic classes. The nose of Robert G. Ingersoll, Henry Ward Beecher, of Whittier, the poet, of Thomas Jefferson and Benjamin Franklin presents four phases of this type. The nose of Beecher and Ingersoll resemble each other somewhat, while Franklin's nose is on a broader scale than either, and this peculiarity was shown in his writings—by their greater breadth and comprehensiveness. Franklin's nose illustrates the scientific side of art by its larger bones. Thomas Jefferson's nose is more bony, and this denotes integrity, hence the justness of his conclusions and the morality and integrity of his life. David Hume's nose is a first-class specimen of the philosophic nose, and more beautiful in its outlines and proportions than any above named. Voltaire also presented a beautiful philosophic nose in his youth, but which in old age assumed a hooked appearanc, owing probably to the loss of his teeth.

The philosophic nose, when compared with the scientific nose, is, as a rule, somewhat shorter, rounder, and with *less bone*. Some philosophic noses illustrate by their form the artistic phase of philosophy, and are speculative rather than accurate; while others exhibit the scientific aspect of philosophy, and reason from facts and laws rather than from assumptions. Some philosophers are profound like Franklin, others skim the surface like Voltaire; and all this is to be learned by reference to the nose alone. These differences are plainly discernible in the peculiarities of the nose, while they receive modifying influences from other elements in combination, such as color, quality, social development, etc.

In order that the reader may form a correct idea of the relative value of philosophy and science, I insert the following from the grand work of Lewes:—

> Philosophy has been ever in movement, but the movement has been circular; and this fact is thrown into stronger relief by contrast with the linear progress of science. Instead of perpetually finding itself after years of gigantic endeavor returned to the precise point from which it started, science finds itself year by year, and almost day by day, advancing step by step, each accumulation of power adding to the momentum of its progress; each evolution, like the evolutions of organic development, bringing with it a new functional superiority, which in its turn becomes the agent of higher developments. Not a fact is discovered but has its bearing on the whole body of doctrine; not a mechanical improvement in the construction of instruments but opens fresh sources of discovery. Onward and forever onward, mightier and forever mightier rolls this wondrous tide of discovery, and "the thoughts of men are widened by the process of the suns." While the first principles of philosophy are to this day as much a matter of dispute as they were two thousand years ago, the first principles of science are securely established.*

DRAMATIC TYPE.

Many of the most distinguished actors and actresses are characterized by a straight outline of the nose or some one of its modifications, and, as acting is a literary as well as a dramatic faculty, we should naturally expect to find the nose of some of the best exponents of the mimetic art thus shaped. A few, like Madame Ristori, disclose a *convex outline* of the back of the nose, and thus serve to illustrate the *tragic* power within; yet many of the most eminent may be classed with the straight-nosed artists, for this is the general tendency of the outline-form of their nasal feature. Examine, for examples,

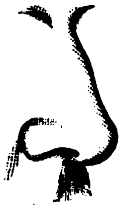

FIG. 228.
DRAMATIC NOSE.
(HENRY IRVING.)

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* Biographical History of Philosophy, G. H. Lewes, pp. 11, 12. New York, 1885.

the noses of the following named: Adelaide Neilson, Edwin Booth, Frederick Lemaitre, Mdlle. Barretta, M. Coquelin, Ellen Terry, Joe Jefferson, Jane Hading, Mary Anderson, Fannie Davenport, and Miss Calhoun. There are many others in this class, but space forbids mention of them.

A large class of comic actors and actresses present a modification of the concave nose. The *retroussèe* finds its illustration among many of this class. Their phase of acting does not need as much intellect and intelligence as is required to depict grand characters such as are enacted by the above-mentioned class of *creative* dramatists. A lighter, more vivacious and mirthful talent is necessary for the portrayal of comic character; hence we see in the nose of Mdlle. Aimèè, Mdlle. Croizette, Mrs. John Wood, Lotta, Lydia Thompson, Mabel Santley, and Pauline Markham, and others of this class, a tendency to concavity, as shown by the "tip-tilted" appearance of the lower extremity of the nose. Those with this form of nose are arch, vivacious, piquant, mirthful, hopeful, approbative, and with a keen sense of human nature and love of young,—all essential factors in comic acting. They bear the same relation to the dramatic art that mere singers do to the art of composition, and the noses of these two classes expound and reveal the *grade of mentality possessed by each.* Other features, of course, corroborate the presence of the dramatic instinct, talent, or genius. The eyes as well as nose are indicative of dramatic power. They must be large, full, and well colored to `express linguistic and emotional capacities. The lower jaw, too, is seen to be well curved in many good tragic artists, whether actors, poets, or writers,—another proof of creative or *original* powers. The chin of many actors is dimpled, the brows arched, and the face oval or inclined to that form. Indeed, every part of the physiognomy of actors, as well as every part of the body, announces capacity for imitation and expression. The fingers are flexible, muscular, and tapering; the body round and lithe; the movements easy and graceful; and the emotional nature dominant. They are easily excited to laughter or tears, to jealousy and quarreling, and are as easily restored to calmness by most trivial circumstances. How could they be otherwise when they are called upon in the course of an evening to impersonate several diverse characters, all of the lightest calibre?

In this class of minds the muscular is a dominant system, and this is the system that assists motion and emotion; hence, eminently well adapted to imitation and frequent change of feelings. In the higher class of dramatic artists the nose is high at the sign for Self-will, for this trait is most essential to those who must conquer their own individuality sufficiently to put another entirely different character in the place of their own. Then, too, it requires a tremendous amount of Self-will to sustain an alien character through five long acts, as many of them do in the course of an evening while delineating the plays of Shakespeare, Racine, and other grand playwrights. Let the reader make a comparison of several of the most eminent of the creative class of actors with some of the most talented of the imitative or comic class, and he will find a very great difference in the *form* of the *noses* of these two classes.

CONSTRUCTIVE TYPE.

All noses that are included in the artistic class present more or less Constructiveness in their outlines. This trait is essential to every department of art; yet there is a class pre-eminently distinguished for constructive skill, as shown in mechanical work and invention, which I designate the constructive class. These noses are short rather than long, soft and muscular rather than bony, very thick at the signs for Constructiveness and Acquisitiveness, and the general contour round.

The nose of John A. Roebling, constructive engineer, the architect of the celebrated Brooklyn Bridge, and Captain Eads, the architect of the Missouri Bridge and the New Orleans jetties, are excellent specimens of the constructive nose. Muscle is founded on curvilinear power and motion; *running* machinery is also based on circular movements; hence the mind that is the accompaniment of a well-developed muscular system is well calculated to comprehend rotatory law. This statement can be verified by an observation of the physique of all those who are skillful in those pursuits that require circuloid motions in their exercise, and this leads us soon to the discussion of athletes, which in this age is acquiring an interest (among men at least) which its importance demands.

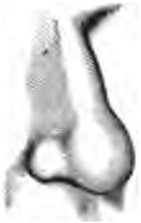

FIG. 229.
CONSTRUCTIVE NOSE.
(E. B. BIGELOW, INVENTOR.)

Constructiveness is one of the prime elements in all talented actors. See the portraits of Modjeska, Edwin Booth, Bernhardt, William Warren, and others. It is one of the *dominant* traits of literary minds also. The nose of Dickens is a most remarkable specimen of this class of nose. His mechanical talent is well shown in the skillful mechanism of the plots and characters which he invented and described. Poets, novelists, operatic singers, all find need of Constructiveness, and according as it is developed in their nose and body, just in that degree do they manifest *ingenuity, originality*, and mechanical skill in the management of their several pursuits. All of the artistic classes require the use of circular or curved motions, as in gestures, piano-playing, dancing, singing (for sound is based on curves), arrangement of drapery, in drawing and painting, and in the rhythmic flow of language in poetry.

The most material and tangible use of the curve principle is shown in movements of machinery which is run by bands, pullies, and wheels, and in the manipulation of the mechanism connected therewith; but its highest manifestation is exhibited by those great inventors who have applied the principle of circular motion to machines which they have invented. An observation of their noses will disclose a muscular rather than a bony formation; broad rather than narrow; together with all the salient signs in their entire organism of the dominance of the muscular system. It is true there is a suitable brain in combination, but it is the brain of a *muscular individual*, who, without this development of the muscles, would not be competent to put the constructive principle into operation; thus showing that every system of the body is *mental*.

ATHLETIC TYPES.

Art in its most comprehensive sense includes all pursuits which in their exercise use the curve as the prime element. Under this classification we must include singers, actors, elocutionists, writers, philosophers, who think round thoughts or around a subject in the primitive manner, as distinguished from the square or cubical thought of the scientist (but this is abstruse for the general reader, yet based on natural law), as well as those who follow the athletic sports as professions, such as boxing, rowing, fencing, running, gymnastics, marksmanship, bicycling, dancing, skating, billiards, ball-playing, etc.

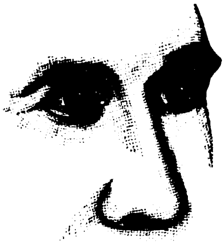
FIG. 230.
ATHLETIC NOSE.
(EDWARD HANLAN.)

In the noses of all these classes we shall find, of course, great diversity of shape, size, and proportion; yet there will be observed in every case certain general characteristic traits and forms. The signs for Self-will and Constructiveness are both well defined, while the sign for Weight in the forehead near Self-will is another well-developed faculty in all these classes. Most particularly is it observed in the faces of ball-players, billiardists, marksmen, and dancers, yet it is needed in varying degrees in all who follow any of the above-named sports. The sense of *aim* and *direction* is another faculty that marksmen require, and in all of those who excel in this art it is very largely developed. Let the reader obtain the portraits of the celebrated rifle-teams and boat-crews that have competed for supremacy, and he will make a most interesting study in class-physiognomy; he will find the signs which I have indicated as dominant to be universally present in all of their physiognomies,—another proof of the muscular basis of art and artists. In all of these classes of athletes the form of the nose, together with its cartilaginous condition, will announce athletic powers; the texture or *quality* of the skin will give the grade of the subject, while the development of the form and size of the nose and nostrils will reveal the more mental aspects of the character. Analysis and the laws of Form must here work together in order to arrive at the entirety of the character under consideration.

CONVEX CLASS—OSSEOUS SYSTEM DOMINANT—POSITIVE CHARACTER.

General Observations.—The basic principles of Form are richly illustrated by the convex nose and the class of character exhibited by its possessors. It is the highest of all noses in its outline, and when it combines breadth as well as height it is the largest of human noses. It has been known for ages as the "Roman nose," and the ancient sculptors often made use of this form to depict heroic character. This probably arose from the fact that many ancient conquerors, leaders, and rulers possessed this nose or some one of its most striking modifications. The underlying bone is the foundation of its form, but all persons endowed with this nose exhibit a large share of muscle in combination, and this assists their bold, aggressive, dauntless, and courageous conduct.

Height of the nose denotes elevation; breadth announces comprehensiveness; length gives caution, far-sightedness, perspicacity. Thus, the three dimensions of height, breadth, and length, when found combined in the nose in a large degree and with a good quality, give the world the assurance of a very powerful character.

As the reader is already aware (if he has followed the course of these pages) that the signs for the great visceral organs—the heart, the stomach, the liver, and lungs—are situated in the nose, it follows that if these organs are large the nose will correspond in size, and if the bony structure be well developed the bones of the nose will be broad and high and proportionately long; thus the grandest of all noses. The most commanding types are found in the visages of those men and women who have governed, controlled, dominated, or led the world in its wars, reforms, governments, or grand enterprises of whatsoever nature.

Those most influential in energetic movements, either as rulers, warriors, executive officers, commercial kings, superintendents, teachers, or capable parents, will in every instance be found to possess some variety or modification of the convex nose; while those lacking the power to command, control, or manage will exhibit a nose wanting in the essential outlines or proportions of this class of nose.

The dominance of bone in the organism of the executive individual endows him with that *solidity* of structure which (when combined with a due share of muscle) enables him to exhibit firmness, integrity, and unyielding power, all of which are essential factors in one who would command. The bones must be *square* as well as *long* if the highest expression of executive judgment is required, for Force must be accompanied with Conscientiousness—integrity—or law degenerates into lawlessness or despotism; and square bones give the quality of righteousness to the character as well as positiveness and decision.

The convex class of noses includes in its modifications the executive, the argumentative, the commercial, the dishonest, the scientific, and one type of the mechanical. The scientific nose is in its essential nature mechanical, for it represents character that is endowed with the principles which enable it to comprehend the mechanism of Nature, and conversely one class of natural mechanics comprehend intuitively the scientific aspect of mechanical laws and operations. Those convex noses that are the highest in the upper third have the osseous system dominant, and this gives love and appreciation for law, order, justice, and similar noble sentiments; but where the highest curve is *lower* than this a less noble and more selfish character is manifested, for *this curving* is caused by the dominance of *muscle* or cartilage, and hence shows more *predaceous tastes;* all of which harmonizes with the chief characteristics of bone and muscle in their manifestations.

A nose in which bone is the principal constituent announces a more solid character than the nose which is composed of soft, flexible muscle. Starting with the knowledge of character by the comprehension of the differences in constituent tissues, the *form* next engages our attention.

The highest or most developed of the osseous noses is shown by a convexity of the bridge or the highest point that is attained by its outline. This height is observed just where the sign for Executiveness is placed, and this facial sign represents the faculty which is among the highest evolved by the osseous system. The capacity to *execute law* must ever be one of man's grandest attributes, for it presupposes Conscientiousness or Justice, and he who is imbued with a spirit of justice, and has the ability and desire to administer it, has certainly a superior character. Now, mental capacity, which depends upon energy to exhibit its action, can proceed primarily from none other than physical power. Accordingly, we find that those who exhibit the faculty of Executiveness in a large degree, or even in a moderate degree, possess a structure of bone and muscle suited to energetic movements. The *internal structure* of certain of the visceral organs are also found to be more developed than is the case where the nose is inferior in size and form. The heart and lungs co-operate to assist energetic motions as well as to carry to the brain a large volume of blood to supply that organ with the stimulus necessary in grand and long-continued mental operations. It is thus again proven that mind and body are one and indivisible—a material unity which God has joined and which no man ought (theoretically, even) to put asunder.

The heart is the largest muscular organ in the body; the lungs are not, strictly speaking, muscular, yet contain a good share of elastic tissue, and according as the heart is large and strong, and according as the lungs are capacious and powerful, so is the character able to express energy, promptness, and decision in both mental operations and physical movements. Hence, when the nose is convex and *broad* in its convexity the character will exhibit the highest capacity for command, such as was shown by the Duke of Wellington (the "Iron Duke," as he was termed), as well as by Admiral Sir Charles Napier, Hannibal, Julius Cæsar, and others among the world's great conquerors. Wellington's nose was like a battle-axe in shape; very superior in this respect to Napoleon's, who met in him his conqueror. Many of our generals in the late Rebellion possessed this form of nose or some one of its many modifications. It requires a good share of Benevolence to balance this trait in order to prevent its possessor from becoming tyrannical and overbearing.

The convex nose, as I have shown, argues superior physiological structure, and superior structure always discloses greater ability than an inferior construction. This is most particularly the case as regards the lungs or thoracic system. The influence of *color* in combination with this form may be taken into account with profit to the observer. As a rule, the very light color of eyes and hair are seldom or never met united with the Executive nose for the reason that bone development is caused by life under the sun's rays mainly, and this course is calculated to color the blood; hence, bone growth and purity of blood proceed *pari passu* for generations, and from this double development of physiological forces proceeds that enormous energy that has characterized the world's greatest leaders, conquerors, and heroes. Emerson has emphasized his knowledge of this correlation of growths thus:—

> The soundness of bone ultimates itself in a peach-bloom complexion.

The colors that characterize those who possess large executive noses are either the black hair and dark eyes, with olive and red complexion, or very dark-brown hair, blue eyes, and clear, decided red and white complexion, and, as color creates force, so the energy of the character is greatly enhanced by the presence of a large amount of color in the system.

It requires generations of *normal* living to develop the forces requisite to make a hero or a leader. A man who can *found a great nose* or assist in this grand work is a benefactor to the whole human race, but in order to do this he must obey natural laws and live mainly in the open air, bathe in sunlight, and live on simple, wholesome diet. *Heroes* do not possess small, weak lungs. Great men, as a rule, are not great invalids. It takes generations to produce the numerous and complex strands that go to make up such a character as a Shakespeare or a Newton. Man has so long been studied from theories and not from facts that the human race is utterly ignorant of the laws of heredity and descent. Not until the societies which have been formed for the purposes of investigating and disseminating this branch of science have imbued the community with their ideas will any accurate knowledge of the laws of life and race-building be comprehended, and all attempts to make this information practical will fail unless studied and applied in connection with the laws and principles of scientific and practical physiognomy.

The question of *nose-building* is the dominant one in race-culture, and nowhere will the observer find a better illustration of the relation between nasal development, mental ability, and visceral power than in the faces and physiques of those eminent men and women who exhibit the highest types of the Executive nose.

ARGUMENTATIVE TYPE.

One of the principal modifications of the convex nose is observed in the noses of those who are naturally logical and talented in argument and debate. The noses of those thus characterized are relatively long, high, and broad; bony rather than muscular. Many exhibit a certain degree of height where the sign for Executiveness is situated, while others have only a gentle undulation or curve at this part of the nose. The most talented noses, however, exhibit considerable breadth of the nose at this part, as well as *general width* of the entire back, and stand quite high above the plane of the face. Flat-nosed races and people are never logical or argumentative, but rather inclined to be disputatious and loquacious, and given to believe that the assertion of personal opinion is as good as logic and perfectly conclusive. Length, height, and breadth of the nose, if good or high quality is present, denote the thinker, and good thinkers are capable of logical ratiocination, and will manifest it by voice or pen.

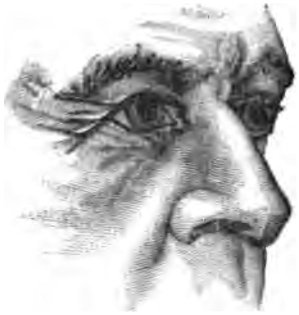

FIG. 231.
ARGUMENTATIVE NOSE.
(WILLIAM EWART GLADSTONE.)

The earnest expression of logical thought requires high bodily powers as well as a suitable brain system. A man who can think logically and well "on his feet," and can state his ideas clearly and impressively in that position, must needs possess a physiological endowment suited to such efforts, and his nose will announce that fact to all beholders.

There are, of course, many diverse forms of the argumentative nose, varying in height, width, and length to suit the bodily build of their possessors. The reader can examine with profit the nasal organ and bodily structure of the following-named persons: Lord Erskine, Charles James Fox, Wilberforce, Voltaire, John Marshall, Alexander Hamilton, Charles Sumner, Stephen A. Douglas, William M. Evarts, William E. Gladstone, Thaddeus Stevens, Goldwin Smith, Gerritt Smith, and Prof. Richard Owen. The noses of these men represent various types of the argumentative capacity; yet all were clear, logical, and impressive, each in his own peculiar line of thought. Many philosophers, literary persons, and scientists exhibit the argumentative type. These will be considered later.

COMMERCIAL TYPE.

There are two general types of the commercial nose, both of which belong to the convex class. The one most pronounced in its outlines may be termed the Jewish or Hebrew nose. It is strongly convex just *below* the sign for Executiveness, and resembles the beak of the bird of prey, and, according to the basic principles of Form, the curve of this feature at this place denotes rapacity and the love of and capacity for overcoming. This curved form of beak, as seen among birds, is confined entirely to the class termed "raptores," or rapacious birds, and can be studied with profit in the forms and habits of the following-named birds: the lammergeyer, the condor, the turkey-buzzard, the Arabian vulture, the eagle, the falcon, the hawks, the merlin, the kestrel, the sparrow-hawk, the hen-harrier, and the several species of owl. These creatures are all carnivorous, and have the power to seize, overcome, and devour their prey. The higher classes, such as the eagles and Arabian vultures, possess considerable mental ability and keenness of vision. Their bodily build shows a wonderful development of the thorax, just as it is seen in the structure of the great commercialists among men. This peculiarity of form gives the courage, enterprise, and daring which are required in large commercial enterprises, as well as the physical capacity to sustain the efforts consequent upon such enterprises. Their physiognomic peculiarities are similar to the class of commercialists above mentioned, viz.: round heads; long, cautious, curved beaks or noses; large, round, convex eyes; curved claws, deep chests, and very strong muscles. The several classes of eagles are domestic and entirely monogamous. In this respect they are much superior to many men.

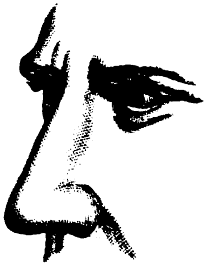

Fig. 232.—COMMERCIAL.

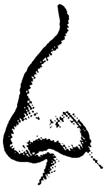

Fig. 233.—EXECUTIVE.

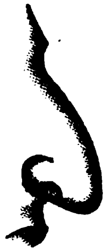

Fig. 234.—COMMERCIAL.

The various modifications of this form of nose are many, yet all announce similarity of characteristics. As this is one of the most pronounced type, and as it is characteristic of large numbers of an old and perfected race, as well as of individuals of other races, it deserves more than ordinary attention. It possesses great interest for the scientific physiognomist, for here he finds the confirmation, proof, and explanation of many theories advanced in these pages.

In the first place, the Hebrew commercial nose is the result of ages of development of character in a given direction, and has been intensified by ages of intermarriage with similar type-forms.

The hygienic law of the Hebrew race, as formulated and enforced by that great law-giver, Moses, has resulted in making it the most vital, the longest-lived, and worldly-successful race in existence,—a proof of the triumph of natural law bringing its sure reward. The reader may read with profit the books of Exodus and Leviticus, in the Bible, and will there learn that Moses was an excellent physiognomist as well as hygienist. It has been by the observance of natural or hygienic measures that the Hebrew race has attained to and preserved its strong individuality and identity as a perfected race, notwithstanding the numberless and decimating persecutions to which it has been subjected for thousands of years. Another circumstance which has preserved them is their strong, or I might say talented, management of the domestic institutions,—the home and children. The success of a race rests primarily upon the skill displayed in the rearing of offspring, in the perpetuity of and justice in the marriage relations, in all of which the Hebrews excel all other peoples.

. Not until the mind divests itself of religious bigotry and narrow prejudices can it do this splendid race justice. Prejudice always leads to narrowness and ignorance, and those who indulge in those petty vices cut themselves off from many rich fields of knowledge, much of which may be gleaned by investigating the habits, literature, and history of this, the oldest of civilized peoples. Those who are familiar with the writings of Moses in the Bible need not be told of the grand hygienic system which he presented to his followers, and notwithstanding that the Hebrews are burdened with the results of "breeding in and in," or, in other words, of too closely intermarrying without crossing the race, they still retain great energy, both moral, intellectual, and physical, which is not surpassed by any other civilized people. A fine lesson in heredity or the transmission of type-forms and features is afforded by the study of the so-called Hebrew nose. As a rule these people intermarry within their own race-boundaries; thus all race-peculiarities and facial features are inherited in an *intensified* form; and as religious persecutions drove them to become traders by forbidding them to own lands, the trading instinct became developed almost universally among them; although literature, art, and science have found among them many grand exponents, yet commerce has been their chief employment for centuries, and thus *acquisition* has become one of their dominant traits; and as it is one of the ruling forces of their mental structure, it is imprinted not only upon their bodily form, but also leaves its facial representative, in accordance with the basic principles of Form, upon that feature which, more than any other, illustrates the action of predaceous energy, viz., the nose.

The form or outline of this type of the commercial nose discloses to us, as in the case of the bird of prey, a large and powerful visceral structure—large lungs, heart, and feeding capacity. The highest curve of the so-called Hebrew commercial nose is made just *below* the sign for Executiveness, and is allied to it in character, for predaceous energy, such as commercialists exhibit, requires the exercise of large governing, commanding, and aggressive powers. Now, one rule to be observed in translating form into character is formulated by the basic principles of Form, and shows that height means nobility or power; its opposite appearance denotes dissimilar characteristics, viz., lowness and weakness. The highest ridge of the nose gives us the noble quality of Executiveness, and where the ridge rises highest below this we have Veneration,—a faculty which bows, submits to, or respects law; but where the curve takes its rise from the root, and presents but *one* curve to the tip, showing no marked undulation at either of these signs, it reveals *quite another character;* and as we must always refer for our interpretation to allied forms in Nature, we find that this form is similar to that of the beak of the birds of prey, and here is our interpretation: An examination of the plans, methods, and systems of commerce of all sorts proves it to be one vast system of robbery, trickery, rapine, fraud, and conscienceless extortion. This is becoming more and more apparent in these days of "trusts," "rings," "corners," and "vile monopolies." In all of these schemes the men or company who *produce nothing* stand with both hands outstretched, demanding tribute from both the producer and consumer, and if they do not comply they must starve. One class of merchants combine to ruin another class. The mercantile rulers of one nation combine against other nations, and *all* with perfect unanimity of action prey upon the producers and consumers wherever found. The men most prominent in these infamous schemes, whether in banking, railroad monopolies, wheat corners, whisky rings, or sugar trusts, as a rule, disclose one or the other of the two most decided forms of the commercial nose, *i.e.*, they exhibit either the so-called Hebrew nose, or the long, *straight, high, and thick* commercial nose. Examine for illustrations of the latter class, the noses of the so-called "railway magnates" of Wall Street, viz., those of W. H. Vanderbilt, H. J. Jewett, Sydney Dillon, Jay Gould, C. W. Field, W. A. H. Loveland, Henry Villard; also the noses of the following celebrated merchants and manufacturers: Elliot C. Cowdin, Matthew Vassar, I. Friedlander, the "wheat king" of California.

These two classes of noses indicate commercial ability, although those with the curved commercial nose show more acquisitive powers than the other type. The methods pursued by those exhibiting these two classes of nose will be in harmony with their forms. There are many persons in all civilized races and nationalities who exhibit the so-called Jewish nose. Their methods will accord with this formation.

The leading characteristics of the straight commercial nose are breadth and length, with a rather uniform thickness, the *entire length*. The length denotes both caution and perspicacity—clearness, far-sightedness. The height at the point announces large Human Nature. Large nostrils reveal a strong heart and lungs. Height and width of the bridge of the nose are signs of a strong stomach, all of which afford the requisite vigor to sustain great mental excitement and physical fatigue. The combination of width and height at this point betokens large administrative capacity—a species of Executiveness. Nearly all disclose a large mouth and a long upper lip. The former indicates good linguistic capacity, as well as large assimilative powers; the latter announces a strong spinal column, as well as dignity, independence, and decision. A very large ear is usually found upon the heads of all great commercialists.

It is thus shown that those who hold a prominent position in vast commercial enterprises must be very capable men—*organized on a large plan*. What a pity that the masses are not imbued with sufficient intelligence and justice to formulate a more honest and just system of distributing the products of labor! Then all of this splendid talent could be utilized in relieving distress and suffering—the producers getting their just share of their productions instead of permitting them to be used to stimulate the greed and avarice of a few, and thus developing the animal-like traits of rapacity, dishonesty, avarice, and unrighteous domination. You may say that their methods are legal; true, but legality is not always the highest form of justice. It was once legal to buy and sell human beings, a system of commerce very profitable to the purchaser, but what to the purchased?

MELANCHOLY TYPE.

One peculiar variety of the convex type of nose is exhibited by those who manifest congenital melancholy, and this trait increases as age advances, and in some cases a tendency to dementia and suicide is developed. Some of the most talented poets and other writers possess this form, and their writings as well as their lives reveal the depressing influence of this sad trait. The melancholy nose may be large or small, yet its outline will assume a curve which causes it to dip downward, as if pointing toward the body.

This is a most significant formation, for those who exhibit it are prone to dwell much upon their bodily feelings, conditions, and slight ailments, and if they contract any disorder, especially if it be of a chronic sort, no matter however slight, they are apt to give way to gloomy fancies and forebodings. I have heard those with this form of nose often express themselves as having no joy in life, and wishing themselves dead, when there appeared nothing to cause such desire, except the *inherited tendency* to melancholy.

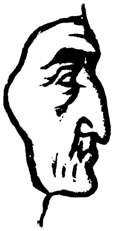

FIG. 235.
MELANCHOLY NOSE.
(DANTE.)

Lavater has given us his impressions of the turned-down nose. He remarks:—

> Noses which are much turned downward are never truly good, truly cheerful, or noble, or great. Their thoughts and inclinations always tend to earth; they are close, cold, heartless, incommunicative, often maliciously sarcastic, ill-humored, or extremely hypochondriac, or melancholic. When arched in the upper part, they are timid and voluptuous. *

The nose in the portrait of Edmund Spenser, poet, is long and pointed downward, showing both caution and melancholy. The upper portion is, however, straight and finely formed. The nose of Dante is of the same form also. Every minute portion of the nose expresses character, whether we regard the size, the outline, the breadth, the length, or the bones and muscles found in it. We must take all these into consideration before passing judgment; we must note its height, where it is straight, and where curved; where thick, and where thin; in what direction it points, and where it is hollow and where filled out. A word of caution is here necessary; the inexperienced observer is apt to confound the acquisitive or commercial type with the melancholy. Close observation and comparison are here required in order to avoid erroneous conclusions.

DISHONEST TYPE.

One modification of the convex class of nose is often observed among the criminal classes, and upon the countenances of many in respectable society who are tricky and dishonest, and who practice dishonorable methods in business and in other ways. This form is an abnormal or degraded variety of the commercial nose, and is exhibited by the crook or curve upon the ridge of the nose, in a position other than that which is occupied by the noblest or highest *normal* position. If the nose curve below the sign for Veneration it indicates *descending* grades of nobility and strength, in varying proportions. It is usually slight in its curvation here, yet sufficiently so to claim the attention of the keen observer.

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* Lavater's Essays, p. 472

The nose of the Bedouin Arabs well illustrates this form, and other predaceous habits reveal its accompanying characteristics. In this class of people there is usually great breadth of the nasal organ, indicating their visceral power,—constitutional vigor, as well as large Acquisitiveness,—the dominant traits of this race. The curve in this nose is very near the tip or point, and thus shows its relatively ignoble character. The combination of breadth with this low-placed curve denotes a combative spirit, directed, of course, in the direction of gain by conquest. All outward curvations of the nose, no matter upon which part of the ridge they appear, indicate some form of the aggressive, combative, or energetic powers. Noses of this form have their attention directed more upon material things than upon abstract ideas; hence, their curiosity is attracted to material subjects and to domestic matters, within the family and social circle. This class, like those with the Jewish nose, are fond of the pleasures of the table, and love to converse upon subjects connected with the cuisine, etc.; especially is this the case where the nose is broad as well as hooked.

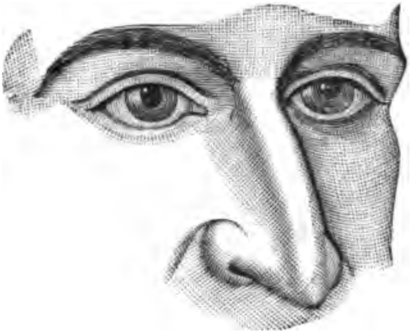
FIG. 236.—DISHONEST NOSE.
(LORD BACON.)

Those who exhibit the curve at this point of the nose are quick and apt at bargains, and with ability for "getting the best of a bargain" they enjoy shopping, if not in trade; and if engaged in commerce, often overreach themselves by palming off upon their customers inferior articles for a first-class price. This class of people should bear in mind that "honesty is the best policy;" also, that a policy which is an honest policy is the best business principle, and the one by which to make the most. This form indicates not only trickery and dishonesty in business, but it also imparts the same spirit to all the acts, and is apt to tincture the entire nature; at least, it will influence much of the conduct in other directions than that of trade.

The curved commercial nose is sufficiently overbearing and overreaching in its manifestations, and where the nose is large it is exhibited on a grand scale; but the curve seen in the *lower* part of the ridge does not, as a rule, belong to talented commercialists, but rather discloses less ability or a *petty variety* of the commercial type. I have observed this form in the noses of sneak-thieves and other petty criminals, as well as upon the noses of respectable people with a taste for *close bargains.* It is not necessarily *criminal*, yet in spirit it desires the best and the most for the money, and if cultivated degenerates in the best characters into sharp practices, to say the least.

Many refined and generous people possess some slight curvature at the lower third of the nose. In such it is not an indication of criminal intent, but indicates an aptitude for commerce. The physiognomist must always take into account *quality* and other modifying influences in making up the entirety of a character. With a coarse quality, this peculiar form of nose denotes a tricky, dishonest disposition; but in combination with a refined mind, the tendency is to *trade*, and such characters will be usually successful in commercial transactions.

SCIENTIFIC TYPE.

Almost all persons possessed of eminent scientific tastes and talents exhibit noses straight rather than convex; yet, as they are composed *mainly* of bone they must be classed as positive in character; hence I place them in the convex class; then, too, almost all of this class exhibit a considerable degree of convexity, ranging from large Executiveness to a subdued type of Veneration. and nearly all good scientists possess a large share of this element in their mental make-up. *Obedience* to law is one of the attributes of a scientific mind; such minds respect or venerate natural law, until, as in the case of Charles Darwin, it constitutes their entire religious creed and worship. Again, in almost all scientific noses there is found, in combination with the slight convexity of the bridge, a considerable degree of *width* at this part and often along the entire length (the latter is the form exhibited in all who are *eminent* in science). See, for example, the noses of the Herschels, Francis Bacon, Copernicus, Sir John Lubbock, Rudolf Virchow, Robert Wilhelm Bunsen, Paul Broca, Professor Charles Thomas Jackson, Louis Pasteur, and Schleiden, and the noses of other renowned scientists present both width and height at the bridge and at other parts of the bridge and back of the nose.

The main constituent of the scientific nose is bone, and this gives height and length, also width at the bridge; while muscle or cartilage fills out the sides and tip. The length denotes caution and perspicacity; width, comprehensiveness; the height at the bridge, elevation or development. The peculiarities of the form of the sides and tip will reveal the characteristics peculiar to each individual subject under consideration. All long, high, and bony noses denote capacity for reflection, and if they are broad as well as high, they indicate *breadth* of perception as well as logical capacity. The osseous element affords the practicality essential to the investigation of Nature's laws, while it also gives calmness, perseverance, observation, stability, and *integrity* to all mental efforts. The last-named quality is most essential to the characters of those who would seek to pierce the veil of Nature's secret arcana. The keenest observation is required in scientific and mechanical investigation, in order to insure accuracy of description. The bony system develops this trait in its highest degree. It is therefore the distinguishing mark of all good or great scientists and mechanicians.

Natural laws are based on justice, equilibrium or balance being the mathematical foundation upon which all Nature reposes; hence, in order to understand the laws of God as shown through the operations of Nature, Conscientiousness must be paramount, and this trait is evolved from a developed osseous system, made perfect primarily through the perfection of the fluid system of the body, having the kidneys for its chief agent in the purifying and constructive process. Conscience has been *naturally evolved*, and not *supernaturally imparted*. The high moral character of scientists as a class demonstrates the possession by them of a large share of Conscientiousness. In their moral natures they are exceeded by no class whatsoever.

Where the noses of scientists is observed to be rather shorter and broader than those who exhibit the longest type, they will be found to operate more upon the art side of science, rather than upon the more material phases; they will incline to experiment; as, for example, they may be expert in microscopy, photography, in experiments with light and heat, with chromatics, in operative surgery, in practical chemistry, etc. In the latter class, the nose of James Prescott Joule is an excellent illustration. Bunsen's nose is on this order, as also that of John Wesley Powell.

The noses of many eminent surgeons are relatively short, and broad at the end, proving that muscle is one of the dominant tissues; also, that Constructiveness, Mental Imitation, and Analysis are large. See, for example, the noses of John Hunter and Edward Jenner, celebrated surgeons; the latter was the first to apply inoculation as a preventive for the small-pox; the former was the discoverer of the "life of the blood" and other very important natural laws. In his Museum of Comparative Anatomy, now owned by the English government, he made more than ten thousand anatomical and physiological preparations, and founded the finest anatomical museum ever collected and arranged by one individual. To give the reader a slight idea of his method of illustrating the functions of the human economy, I extract the following from a description of his labors. His biographer remarks:—

> Dr. Hunter found it impossible to explain the functions of life by the investigation of human anatomy unaided by comparison with the simpler organization of brutes, and therefore he undertook the amazing labor of examining and preparing the simplest animals, gradually advancing from the lower to the higher, until by the process of synthesis the structure of the human body was demonstrated and explained. Let us take one small compartment in order to understand the effect of this method. Suppose it is wished to learn the importance of the stomach in the animal economy. The first object presented to us is a hydatid, an animal, as it were, all stomach, being a simple sac, with an exterior absorbing surface. Then we have the polypus, with a stomach opening by *one* orifice and with no superadded organ. Next in order is the leech, in which we see the beginning of a complexity of structure. It possesses the power of locomotion, and has brain, nerves, and muscles, but as yet the stomach is simple. Then we advance to creatures in which the stomach is complex. We find the simple, membranous digesting stomach; then the stomach with a crop attached to macerate and prepare the food for digestion; then a ruminating stomach with a succession of cavities, and with the gizzard in some animals for grinding the food and performing the office of teeth; and, finally, all the appended organs necessary in the various classes of animals, until we find that all the chylopoietic viscera group around this, as performing the primary and essential office of assimilating new matter to the animal body.*

I have inserted the above slight extract to show the reader that patience, perseverance, and order are ever the attributes of those who bless the world by their observations of Nature's operations; also to demonstrate that the synthetic methods pursued by me in tracing physiognomic features are identical with those followed by the most eminent scientists in other departments of science. The analytical and synthetic methods combined give us the ancient and modern ways of approaching the investigation of all natural objects, and it is this combination of methods which has given such an impetus to modern investigation. Reasoning from a whole to the constituent parts, and from the separate parts to the whole, affords us a central and circumferential knowledge of a subject, theory, or object. Herbert Spencer is a grand example of one talented in both these faculties, and one is at a loss which most to admire, his analytic or his synthetic modes of inquiry.

MECHANICAL TYPE.

There are two general and distinct classes of mechanicians, one of which is noted for the dominance of the muscular system, and the other for the supremacy of the osseous system. The latter class exhibits a capacity for *angular* mechanism rather than for the round. Carpenters come under the head of angular mechanics, inasmuch as they deal with plane surfaces and angular forms; while watchmakers and wheelwrights belong to the muscular-constructive class, and are best adapted to the running of machinery, and will show themselves more skillful in this direction than in the former. The most skillful piano-players and sewing-machine operators belong to the muscular class. It is true that the bony class of mechanics make use of circular forms and of the spherical principle in their various works; yet these are not the dominant or reigning principles. The muscular classes also use the *angular* principle of form; yet the circular is the regnant principle in their works. The bodies and noses of these two classes present *two* distinct types of formation in harmony with the forms which they are most skillful in using and creating.

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* The Portrait Gallery, vol. iii, p. 665. (Published by the Society for the Diffusion of Useful Knowledge.)

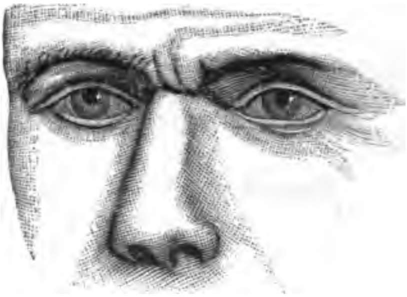
FIG. 237.—MECHANICAL NOSE.

The angular mechanic is conspicuous by a long, high, and bony nose; in some subjects it is convex and well filled out at the sides, with *squareness* of all the bones, and an angular rather than a rounded body. The joints of the hands, fingers, and limbs are large and considered "homely" by those who do not know the beauty and significance of the square and angle. In some mechanics the nose is relatively short, thick, and broad, yet with large bones; in others longer, yet wide and thick through, just above the opening of the nostrils. Professor Morse, the electrician, is an excellent example of this sort of nose.

I recently saw in a fashion article a recipe for making a stiff, bony wrist over into a round, plump, flexible one! This would be, if successful, a greater miracle than was ever wrought by saint or prophet. Those who recognize but *one form* of beauty, viz., the curvilinear form, need to extend their knowledge of the signification of forms in Nature, and thus broaden their capacity for enjoying those shapes that illustrate the most substantial, the most heroic and moral character.

ABNORMAL TYPE.

Many human beings come into the world freighted with the results of the bad habits of innumerable ancestors. The nose records these lapses from normal habits as surely as it registers the hygienic conditions which have resulted in normal form of this member.

Noses disproportionately *short* announce a lack of bone, hence of caution and foresight in the subject exhibiting this form. This mental defect will inevitably lead to ill luck in all enterprises, as well as to ill health through lack of the care-taking propensity. We can, therefore, class this among the unhealthful or abnormal types.

A nose *very high and extremely thin* in combination is another abnormal form, and reveals consumptive tendencies, with but feeble longevous powers. Great weakness of the stomach is to be found associated with those noses that are greatly depressed at the centre, as well as a lack of veneration of the self-controlling, self-respecting, law-abiding element.

Very sharp-pointed noses are deficient in that general or large development of character and of physique which indicates capacity for long life, or a life that is *rich in its fullness*. It is not so much length of days that is to be considered desirable as is the *quality* of fullness of existence while on earth.

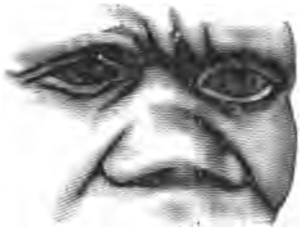

FIG. 238.
ABNORMAL NOSE.
(NATIVE TASMANIAN WOMAN.)

The gimlet-shaped nose ever announces a small degree of those ornate faculties which assist in rendering the mind creative, imaginative, artistic, and analytic; and these traits are the product in a race of a higher evolutionary grade than is possessed by those with sharp-pointed or impoverished noses. Examine some of the lower classes of the Irish, those who are the offspring of centuries of deprivation of physical comforts and social advantages, and we shall find the most striking types of this class of pointed noses. It is also seen in the faces of individuals of all races, and in them denotes poor physical conditions of their ancestors. A good nose is not the product of one generation alone; neither does a poor one come into existence suddenly. It can be traced back to some poor-nosed ancestor, or is the result of cumulative deprivation, or, as in the case of some feeble-minded subject, it proceeds from unusual modifications of the laws of form during prenatal existence.

Noses abnormally long indicate too great a degree of Cautiousness, and this gives a suspicious turn to the mind, and thus engenders disordered or morbid ideas, which may result in alienating friends, or in melancholy brooding, in insanity or suicide.

A nose very crooked or curved on the back, below the normal position for the curve, betokens avaricious or dishonest propensities. It is, in short, a caricature of strength, and as the curve is misplaced it argues a condition not normal.

The nose which is disproportionately high at the bridge will exhibit a despotic nature, unless there are modifying signs elsewhere—such, for example, as well-balanced Benevolence, large Reason, or Love of Young, or Conjugality, or Practicality.

Where the nose is high and broad between the eyes, and joins the forehead without any degree of incurvation, it denotes a character stupidly willful. If it join the forehead without a gentle undulation, and then suddenly project, it is evidence of a suspicious as well as of a willful disposition.

If the nose be abnormally short and thick, with a poor quality of texture, it is evidence of a stupid or brutal character.

Where the nostrils are wide and appear as if *facing* the observer, it is proof of low animal passions. This is one of the most striking characteristics of many animals. It is found in all simian faces, as well as among the carnivorous classes and the more peaceable domestic beasts. The ape tribes disclose this peculiarity in what may be termed its most malicious form, the nostril being at almost right angles to the eyes, and this form, when observed in the human face, indicates spite, malice, revenge, or vindictiveness, in various degrees and in diverse manifestations.

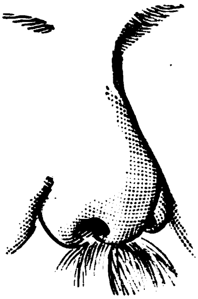

FIG. 239.
ANIMAL TYPE.

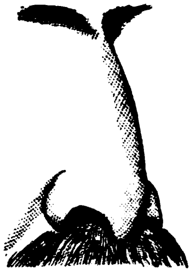

FIG. 240.
REVENGEFUL NOSTRILS.

Nostrils exceedingly narrow announce poor circulatory and respiratory powers, with a decided tendency to consumption and ittle ambition.

Nostrils that are stiff and wanting in flexibility denote absence of sensitiveness or delicacy of sensation.

Very broad and flat nostrils indicate abnormal secretiveness, as in the negro and other undeveloped races. This appearance is an animal peculiarity, and must be classed among the signs for comparatively undeveloped minds.

In concluding the foregoing analysis and description of the nose, it is pertinent to the subject to speak of those accidental appearances of this feature which often lead the physiognomist into error. A highly-observant physiognomist should be able to at once know if a peculiarity of this member were congenital or accidental, but, lest a wrong verdict of character should be rendered, the question should be put to the subject as to whether *accident* has imparted an unnatural form to the nose. Many noses are one-sided; others depressed at the bridge by a blow; others by accident become straightened at the bridge, which were originally convex; others are swollen by catarrh or other disorders, or by bad habits of eating and drinking; others present thickened walls and a large, thick, coarse point, which is a scrofulous indication, and does not denote Ideality or Sublimity. The quality as well as form should be remarked, for *fineness* of the texture of the skin is the sign of fineness of organization, and is seldom the accompaniment of a scrofulous diathesis.

All these circumstances should be taken into account in reading the physiognomy. Certain disorders destroy the osseous tissue of the nose; others affect the cartilage. Catarrh and syphilis both leave traces of their ravages upon this member, while polypus and inflammation change the color, size, and texture. All these circumstances must be had in consideration. When the nose is so far destroyed as to prevent our gaining a knowledge of the mentality of the subject, reference may be made to the forehead, head, and shape of the hand, the fingers, and other portions of the organism, for all are parts of one harmonious whole, and serve to enlighten the truly accurate observer.

The Eye.

In order to understand the full significance of the eye as an indicator of character, a certain degree of knowledge of its mechanical construction, as well as of its evolution, is essential. It is impossible in this work, limited as it is to the more *external aspects* of character, to give extended descriptions of the physiology and evolution of all the features; yet some accurate account must be had from competent authority in order not only to enlighten the reader, but also to sustain my own theories.

As elsewhere stated, the outer skin-covering of the body is the most primitive of the mental organs; it is in the human being the most diffused and extensive, and gives us our ideas of heat or cold, of solid or liquid, of pressure or of resistance; in short, of the *qualities* of things independent of that knowledge of them which sight brings to us.

The tips of the fingers and the tongue are the most sensitive portions of this sense-organ. The outer skin is the most primitive of the mental organs, and evolution teaches how the eyes are evolved from this tissue. The course of their evolution has been followed with the aid of the microscope and other instrumentalities by many eminent observers, in the human as well as in animal embryos.

As it would take too much space were I to go into the *detail* of their observations, I shall therefore be obliged to content myself with quoting the result or summing up of the description by Professor Haeckel of this process. He observes:—

> The most important fact in this remarkable process of eye-development is the circumstance that the optic nerve, the retina, and the pigment-membrane originate from a part of the brain, from a protuberance of the twixt-brain, while the crystalline lens, the most important refracting medium, develops from the outer skin (epidermis). From the outer skin—the horny lamina—originates also the delicate connecting membrane (conjunctiva), which afterward envelops the outer surface of the eyeball; the tear-glands proceed as branched processes from the conjunctiva; all the other parts of the eye originate from the skin-fibrous layer; the vitreous body, and the vascular lens-capsule, from the leather plate, the choroid coat with the iris, and the protective membrane (sclerotica) with the horny membrane (cornea) from the head-plates. The outer protective organs for the eye, the eyelids, are merely simple folds of skin, which in the human embryo appear in the third month. In the fourth month the upper lid adheres to the lower, and the eye then remains covered by them till birth. The two eyelids usually again separate shortly before birth, but sometimes not till after. Our skulled ancestors had, in addition to this, a *third eyelid*, the *nictitating membrane*, which was drawn over the eye from the inner corner. Many primitive fishes (Selachii) and Amnion animals yet retain this. In apes and man it has atrophied, and only a small remnant of it exists in the inner corner of the eye, as the "crescent-shaped fold," as a useless "rudimentary organ." *

The student of evolution will call to mind that the entire brain was originally evolved from the outer skin, hence, in its most exact and vigorous sense, *all* parts of the eye have been derived from this tissue, and in this circumstance we find one of the most powerful evidences of the intimate relation existing between the texture of the skin and the brightness of the eye. It will be found upon examination that these two conditions are always in exact relationship or agreement with each other. The physiognomist feels entirely safe when by putting together these two circumstances he deduces therefrom the *quality* or *mental grade* of the subject.

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* The Evolution of Man, Ernst Haeckel, vol. ii, p. 259.

And it is this knowledge that gives me confidence in asserting that fineness and clearness of the skin, brightness of the eye, and fineness of the hair are proofs of a higher grade of mentality than coarse, thick skin, coarse hair, and dull eyes. It is a long road over which the true physiognomist must travel to find his proofs. *Demonstration* is what is needed for this purpose, and no true physiognomist should be satisfied with unsupported evidence or mere assertion; besides, the interest of any feature is greatly enhanced if we can trace its *history*, for this opens our minds to much that is not apparent upon a surface presentation.

The history of the development of any organ or feature is wonderfully instructive, and enriches the mind with *facts*, which are far more satisfying than the fanciful theories of Creation, which have entertained the credulous in past ages.

The only way that we can arrive at a correct knowledge of things, is by the use of our *natural senses!* The more perfect they are, the more *exact* will be our knowledge of phenomena, and the more perfectly constructed the eye, both in its mechanism and chemical organization, the more accurate will be our knowledge of those objects which sight brings to our observation.

The *perfect mechanical* construction of the eye is rather rare, as I am informed by an eminent oculist. The imperfections of eyesight are probably as common as are the imperfections of the organs of speech, hearing, and scent. These all vary from a normal degree to the most feeble grade. Hence, it is not surprising to find that perfect articulation, accurate hearing, and keen scent, are rather rare than otherwise; this fact is known to all physicians. Some of these deficiencies are due to abnormal chemical action, whereby the fluids of the eye or the tissues are not perfectly developed, or through malformation of the muscles of the eye, or by their defective mechanical construction and action, making the eye either too long or too short sighted, or too oblique, as in strabismus, or "cross-eyes," as it is commonly termed. Again, the *coloring pigment* may be lacking to such an extent as to render the color-sense very weak, and also to so enfeeble the vision as to cause very defective or confused ideas of objects under observation. It will be observed by the last remark that deficiency of color in the eye is a direct impediment to true sight. Albinos illustrate this defect, as they are noted for their feeble eyesight, as well as for weakness of all their senses. The same feebleness of sensation is apparent in the sense-organs of others, where the color pigment is lacking. The nasal and auditory ganglia require coloring pigment, and if this be absent the senses of scent and of hearing are relatively weak. Or if there be a general absence of color, and the complexion be pallid, all of the tissues are abnormally feeble, with a tendency to scrofula or consumption, and the color-sense is also wanting. Thus it will be seen that in order to have perfect vision very many things are required, and this will explain why there are so few comparatively perfectly constructed eyes.

The two principal functions of the eye are sight and motion.

The eye, like all the features of the face, is both a physical and a mental organ and feature.

It is a current belief (along with many other physiognomical heresies) that the eye expresses *more* of the *mental powers* than any other facial feature. I do not so regard it, for the reason that, when the eyes are closed, very *thorough* knowledge of mental characteristics can be had from inspection of the nose alone.

But this amount of knowledge cannot be gained by observation of the eyes solely; this is a test of the relative value of the two features as significators of mental character. That the eye is a more impressive feature than any other I will concede. The brightness and intelligence exhibited by this feature immediately arrest one's attention, and give brilliancy and an appearance of *active life* to the countenance, without which it would resemble a lifeless statue more nearly.

Dr. Cross concurs with me in this view, for he observes thus:—

> Were we at this moment to see a face for the first time, our attention would be arrested by the eye—a thing so brilliant in the midst of dullness, as if it were a little fire, or a window opening into a luminous apartment. But although the eye from its superiority, in situation, in structure, and in function, is a more engaging and a more expressive feature than the nose, yet the nose from being more central, and from being connected with the great vital organs, is a more radical feature.*

The eye is the facial register of the muscular system of the entire body, and its motions are due to the development of that system.

It is the *movement* as well as the brightness of the eyeball that makes it so attractive; not the fixed gaze, for the eyes express all emotions in turn. Although the eye in a state of repose gives us the *general* tone of the mentality, as well as the temper and morality, it does not reveal to us either the power or direction of the intellect; the nose alone is competent to disclose all these. The eye expresses the emotions rather than the purely intellectual processes, for *movement* is better adapted to feeling than to *thought.* It is this great capacity for motion which leads me to regard the eye as more indicative of the emotional nature than of the intellectual nature.

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* An Attempt to Establish Physiognomy on Scientific Principles, John Cross, M.D., p. 243.

The eyes and ears have arisen out of the original nervous system, as evolution teaches us; hence they were not intended to *supersede* the functions of sensation or tactile power, but to *assist* them. One proof of this is had in the experiment of endeavoring to ascertain the qualities of articles by touch. It will surprise those who have never made this test to find how little the function of sight is essential to knowledge in this direction. Now, although qualities may be detected by touch alone, yet we can gain no adequate idea of *form and color* except by sight, and as these constitute the greater part of objects, so sight is most essential to those who would become actively useful. The eye is a mixture of animal and mental powers: animal by reason of the preponderance of its muscular construction (eleven muscles being found within its orbit); mental by virtue of its connection with the optic nerve—a nerve derived from the second pair of the cranial nerves, which are nerves of sense. This nerve ramifies upon the retina, and according as it is finely organized will be the power for *acute vision*. Accuracy of vision depends upon the mechanical arrangement of the muscles, the humors and the lenses, as well as the amount of the coloring pigment in the choroid coat.

The most primitive and most diffused mental organ is the outer skin-covering of the body, and evolution shows us that the eyes were evolved from this source, and, as the power of sensation of feeling is the most extensive and important, it follows that deprivation of surface-sensation (as in paralysis, or by burns) is more destructive to mental activity and force than deprivation of eyesight; thus proving that original or primitive functions cannot be dispensed with so easily as the later additions to our bodily equipment, although they may stand more abuse, as is the case with the stomach, which is, I believe, the most abused of all our organs, as it is the most primitive of all the viscera.

A great deal of nonsense, poetic and otherwise, has been written about the eye; some describing it as the "mirror of the soul," etc. Now, the eye, like the brain, is simply a physical organ supplied with blood-vessels, nerves, muscular fibres, and certain liquids, all purely physical substances; as well call the chin or the nose expounders of the soul; they all reveal mental or moral characteristics and proclivities, or the lack of them. I do not object to poets idealizing any portion of the face or body, but when it tends to superstition I object. The ancient writers and many modern European writers use the word soul synonymously with the word mind; science gives a more accurate meaning and teaches that mind is a physical organ. Whatever the soul may be I know not, but it is not best to confound soul and mind by using one word to describe both. Mind, I opine to be the entire *material intelligence* of the human being.

Soul, I cannot describe, hence I confine myself to what I understand. At any rate I gain no idea of one's "soul" from the expression of the eye, but I do learn much of man's emotional nature,—his moral or immoral status, as well as his linguistic powers and general capacity for motion,—hence his aptitude for art; also his general tone or mental force by the color and brightness of the eye, but not the entire *direction* of that force; the nose and forehead alone show these.

The relation of the eye to the muscular system must be thoroughly comprehended in order to discern why and how this feature is the facial sign of the muscular system, of motion and of the emotions, viz., of love, hate, truthfulness or untruthfulness, sentiment or sensuality, and, also, of artistic capacities. For this purpose we can find no better evidence than that which Nature has furnished in so many "ready-made experiments" in the animal kingdom. This proof is had by observing the eyes and bodies of all those animals that depend mainly upon their muscles for their activity.

The eyes of the various kinds of deer, the springbok, gazelle, goat, ibex, elk, chamois, hare, and rabbit, all indicate by their size and conformation that the muscular is their predominating system. It also exhibits their capacity for continuous and rapid motion. The size of the eyes, as well as the habits and habitats of these animals, prove that they are intended to scan distances and wide expanses, and that they are not suited to the perception of the minute in Nature. Small-eyed animals exhibit faculties just the reverse of large-eyed ones, and depend more upon the knowledge of things near them and those that require more exact vision. These animals are slower in their motions, possessing more bone and adipose tissue than muscle according to their size. The elephant, tapir, rhinoceros, grizzly bear, walrus, and elephant-seal are examples of this combination. The small eye of the elephant is so easily brought to a focus that he can pick up a needle with his proboscis. The nature and habits of all these creatures demand that they shall take cognizance of small objects, as well for the purpose of gaining a supply of food as for protection, their motions being so slow that accurate and instant vision is essential to their safety.

The mental characteristics of animals possessing large, full eyes bear a strong resemblance to human beings who have similar features. They are more emotional than the small-eyed creatures, more affectionate, and more active; they receive sensations more vividly, and lose them almost as readily as they receive them. One class of animals in which the muscular system predominates exhibits considerable mechanical, and even artistic, skill. The mole's burrow and the beaver's dam are manifestations of one form of muscular ability. In man, all the varied architectural and building powers depend mainly upon the muscular and osseous systems combined.

In endeavoring to discern the meaning of an eye there are *nine* things at least to be observed: First, the form; second, the size; third, the color; fourth, the degree of brightness; fifth, the shape of the commissure or fleshy opening caused by the parting of the upper and under lids; sixth, the effect produced by the folds, wrinkles, and brows, and proximity to the nose; seventh, the angle of inclination, or the manner in which the eye rests in its socket—its inclination forward or backward, and its position in regard to the surrounding parts; eighth, its relative position to the central line of the perpendicular; and ninth, its general expression.

There are many expressions of the eye which cannot be described in any way, apart from the living subject; just as there are many indescribable traits in persons that cannot be illustrated by brush, chisel, or pen. The personal atmosphere or magnetism is one of the things that cannot be transmitted to posterity by words or pictured representations.

The enthusiasm and inspiration of the ancient orators—Cicero and Demosthenes, for example—must have produced the most exalted and sublime effect upon their hearers; yet in reading their noble and lofty sentiments, all this is lost. Just so with the human eye. Many of its expressions cannot be reproduced. The various *colors* are most difficult to delineate on canvas. The best study of the eye must be made in the living subject. Still there are many expressions observed that can be described and their meaning understood to a certainty.

The eye being more particularly the indicator of the emotions, it is particularly well adapted to reveal the linguistic powers, as well as the passions, such as love, affection, hatred, jealousy, suspicion, anger, truthfulness and untruthfulness, sexual morality and immorality, and this it does by the peculiarities of its structure. In order to understand this feature and to be able to translate its conditions into character we must apply the laws of Form as set forth in the basic laws of Form.

The consideration of the forms of the eye will now be taken up; this will be followed by the other qualities involved in the physiognomic signification of this feature.

THE FORMS OF THE EYE.

The true sphere occurs but once in the human organism, and this appears in the shape of the eyeball. The true circle is found but once in the human face, and that is found in the retina of the eye—that particular portion of the eye which brings into the mind a knowledge of the forms and colors prevailing throughout Nature's vast domain. The form of the eye is globular, and epitomizes the world. Within the orbit of the eye and its surrounding parts and accessory appendages, we shall find all of the prime factors of Form, viz., the *globe* or sphere in the eye-ball, the *point* in the "blind spot" where the optic nerve makes its appearance in the retina, the *line* in the ciliary processes—numerous radiated fibres which assist the iris in dilating and contracting.

The *angle* is well represented by the two angles at the outer and inner corners of the commissure of the eye, the *curve* by the sections of the eyeball, and also by the curving of the lids; hence, we find in this feature *all* the essential elements of Form. The eye is thus shown to sum up and resume all basic principles of Form, the only feature which contains them *all* in so complete a manner.

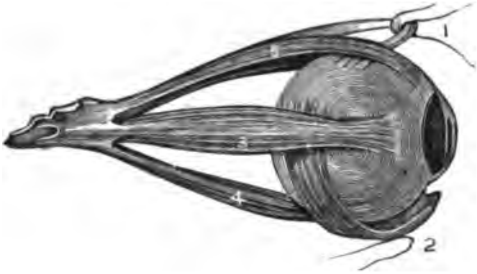

FIG. 241.—THE MUSCLES OF THE EYE.
1, superior oblique; 2, inferior oblique; 3, 4, 5, recti muscles.

The patient student of physiognomical science will be able, by applying the basic principles of Form (as described in this work), to spell out the meaning of every part of each eye under observation, and thus learn their true significance.

The outline of the eyeball is globular; this form is necessary in order to facilitate the number and variety of movements essential to sight. The sense of sight, like that of hearing, is dependent upon circular or curved movements and circular mechanism. The rays of light are produced by vibrations of ether, which are wavy or curvilinear in their form; so, also, the sound waves that impinge upon the ear describe a segment of a circle of infinitesimal size.

The eye, both internally and externally, is round, and the mechanical appendages down to the most minute cell of the watery humors of the lenses, of the coloring pigment and of the muscular tissue, all exhibit circuloid formation.

The optic nerve, like all nerve-tissue, is endowed with elasticity, and the infinitesimal tremors that mark its activity are wave-like, and thus are able to communicate to the brain with lightning-like rapidity the stimulus received by the eye at sight of any object that falls upon the retina; here, again, we find that motion is the main cause of intelligence. All of which goes to prove that motion primarily is the source of all the knowledge which comes into the mind through the senses of hearing and seeing, and, also, that circular form and curvilinear motions are best adapted to free movements; hence are the bases of spontaneity of motion as in artistic works,—Music and Language, for example. This idea leads up to another, and it is this, that the eyes of the artistic classes are larger than those of all other classes; also, that the most active persons and animals possess the largest eyes. Upon further examination it will be found that in all these classes the muscular is the dominant or one of the dominant systems, and thus we are confronted with the logic that, as activity, spontaneity, and continuity of motion are attributes of the muscular system, so Language, being a *mode of motion*, it follows that the eye is the facial sign, both of the muscular system and of Language, and furthermore for the reason that it contains more muscles within its small orbit, and more active ones than any similar amount of space in the face or body.

Now, if this be the facial sign for Language, it follows that it should by its form, size, color, and quality reveal linguistic capacities and individual peculiarities. It does this in the most precise and subtle manner when the basic laws of Form are applied to each minute variation of every minute section of its orbit, lids, brows, etc.

The eye is also one of the facial representatives of the sex-nature and amative sentiments by virtue of its muscular relationship to the reproductive system, and as this system is the base of Amativeness it follows that the quality, power, and conditions of this system and its associated sentiment would be indicated by the structure, color, and quality of the eye; hence, in our investigation and analysis of this feature we shall treat more particularly of the faculties of Love and Language while describing the various circumstances that effect this feature, although it is indicative in a general way of all the emotions.

This analysis proves how fallacious is the notion that the

> Large size of the eye of talented linguists is the phrenological gan of Language, which is situate in the cerebral convolutions on the wer side of the anterior lobe of the brain at the posterior part of the supraorbital plate, pushing the eye more or less downward, or forward, or outward, according to the size of the convolution, thus giving prominence or anterior projection if the organ be large. (Story.)

What supreme nonsense is all this! Why even a child by superficial observation can see that the eyeballs of great talkers are large by virtue of their *muscular* endowment, and are not "pushed up, or down, or out" by the "convolutions" of the brain behind them. This idea of the *muscular formation* of the *eyeball* as an indicator of Language and of motion must be grasped in its entirety by the student of physiognomy in order to make an intelligent use of the science as a whole; for it is a *basic idea* and is related to the entire muscular mechanism. The eyes and formation of the deer tribes, the goat, the chamois, etc., accord with this theory of motion. They are the fleetest and the most continuous in their movements of all animals. The wandering, nomadic tribes of Arabia present very large, wide-open eyes, and in them the gift of imaginative language is pre-eminent. The artistic classes of all races reveal the same peculiarity of form of the eye, and they all depend upon the rapidity and automatism of the muscles for the skillful performance of their art, be it music, language, painting, or athletics.

The optic nerve has room for greater expansion upon the retina of a large eye than upon a small one; hence, the larger the eye the greater the power for receiving impressions and sensations, and of imitating and exhibiting emotions, as is the case with poets, actors, and others of the artistic classes. This expansion of nerve-tissue is more marked upon broad features than upon very narrow ones, and in all instances gives the most power.

Width of the point of the nose and nostrils gives greater keenness of scent than is found in those that are thin and narrow. Contrast the greyhound and bull-dog for examples of this principle. It is the same with broad, full lips *versus* thin ones, and thus of all the facial features.

THE THREE GENERAL FORMS OF THE EYE.

There are three general forms of the eye; and now I am about to describe the *form* of the eye as it appears between the slit or opening of the lid. These are: (1) large and round (Fig. 242); (2) narrow and elongated (Fig. 243); (3) oblique (Fig. 244). All other forms are modifications, blends, or compounds of these three principal forms. Some eyes present in their contour portions of each of these forms. Exaggeration of any one of these forms is a caricature of what such individual form represents; as, for example, an eye greatly exaggerated in size denotes fluent, unreliable "gab" or talk instead of rational and eloquent language. It also denotes incapacity for receiving correct and accurate impressions; hence, is the indication of an untruthful, unreliable character. An eye too small denotes great secretiveness, another form of unreliability in regard to language and truth, while the slant-eyed, cat-eyed individual reveals still another form of abnormal development of language, being deceptive, secretive, sly, and crafty in his talk; thus, all departures from the normal standards of form are shown to be not only less reliable than those that approach these standards, but are also less beautiful. The ancient Greek writers, poets, and artists seemed to have had a very limited conception of the beautiful as expressed by the eye; their main idea of this feature seems to have been that large size of the eyeball, high arching of the lids—particularly that of the upper lid—was the *sole and only type of true beauty*. This peculiarity of form is found in most of their great masterpieces of statuary, as seen in the figures of Jupiter, Apollo, Juno, and others. The Greek idea of beauty was based entirely upon the physical or sensuous aspect of Form; the moral and scientific idea of Form had not developed in their era; hence, they knew not its meanings and could not express it in poetry or sculpture. They were a *muscular* race, and we have learned through scientific physiognomy that "we generally think according to our formation;" so the Greeks thought round, curved, artistic thoughts, which eventuated in rounded, flowing, graceful language and curved, rounded statues—curved in all their parts.

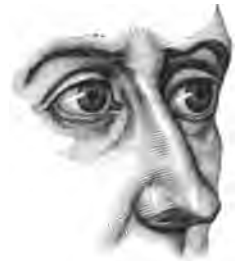
FIG. 242.—Large and Round.

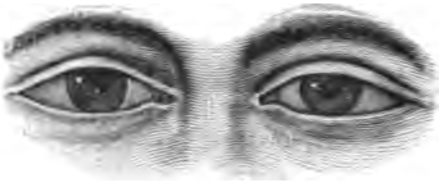
FIG. 243.—Narrow and Elongated.

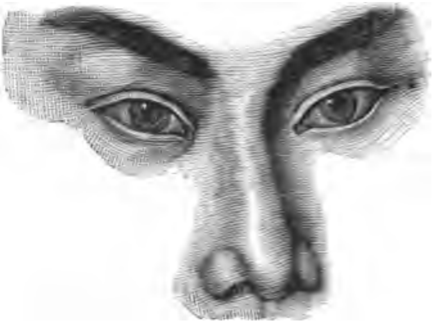
FIG. 244.—Oblique.

THREE GENERAL FORMS OF THE EYE.

This represented the art era, but not the moral or scientific era, such as is now advancing. One of the grand uses of this system of physiognomy is that its basic principles of Form apply to the people of all nations, races, and eras, making it unnecessary to devote great space to the description of racial types, because the laws of Form apply to each, and when thus applied reveal and express national and ethnic characteristics as well as individual peculiarities of character.

The form of the upper lid alone, could we view it apart from its surroundings, would reveal the degree of linguistic capacity in the subject. It will also give us his class of mind—whether he be artistic, scientific, mechanical, moral, or sensual. Where the inner corner of the upper lid is highly arched we have assurance that it is the eye of a luminous, artistic mind, with lofty ideals and great susceptibility to all outward sensations and expressions, as in Fig. 242.

ARTISTIC TYPE.

On the other hand, if this line is not so highly arched it announces a more reflective mind, with power for more *accurate* observation and less emotion.

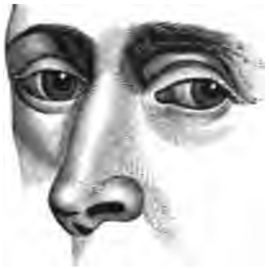

FIG. 245.—ARTISTIC EYE.
(RUBENS.)

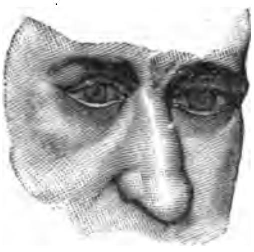

FIG. 246.—REFLECTIVE EYE.
(JAMES WATT.)

REFLECTIVE TYPE.

The shape of the hands and finger-tips even can be delineated from observation of this line alone. In the former case they will be muscular, flexible, and tapering; in the latter bony, hard, and square,—so true to nature and so far-reaching in their applications are the basic laws of Form. The law of the homogeneity of the whole organism here, as elsewhere, asserting its supremacy. The law of one part is the law of the whole. The above outlines are normal types,—one of the artistic, the other of the reflective, eye. Each indicates fluency and normal Amativeness.

A *true curve* of the upper lid at its *outer* corner denotes Agreeability.

THE AGREEABLE EYE.

The eyes of thousands of moral persons exhibit this slight downward curve. In its normal manifestation it is a moderate curve, and signifies Agreeability, and in this form it is found in the eyes of the following-named: Henry Ward Beecher, Prince Gortschakoff, General Robert E. Lee; William I, Emperor of Germany; Edward Everett, Robert Burns, Benjamin Disraeli, Jenny Lind, N. P. Willis, Pius IX, Marshal McMahon, Commodore Farragut, Dr. William B. Carpenter, Ferdinand De Lesseps, Michael Faraday, ex-Empress Eugenie, Prof. William D. Whitney; very marked in Tennyson, Thurlow Weed, Alexander Hamilton, Elizabeth Fry, and Dr. Abernethy. I could swell the list almost indefinitely of most excellent characters whose eyes present this degree of curvation. I am the more particular in calling attention to this peculiarity for the reason that it has been classed among criminal eyes by a certain writer on physiognomy. Doubtless this peculiarity is found in the physiognomy of many thieves and liars, for many of them use their native agreeability to deceive others. Many rogues possess great suavity, as well as a large share of the faculty of Human Nature, and these traits they combine with the criminal ones in order to succeed in their knavery.

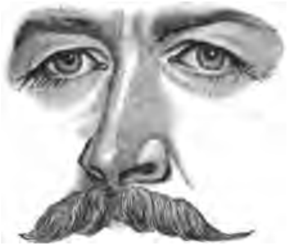

FIG. 247.—AGREEABLE EYE.
(N. P. WILLIS.)

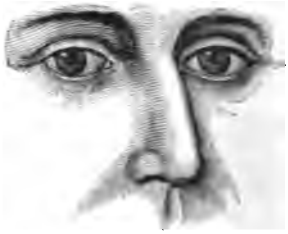

FIG. 248.—LINGUISTIC EYE.
(MRS. HEMANS.)

THE LINGUISTIC EYE.

The linguistic eye is full, round, and quick in its movements; of various colors, but always bright.

POLITIC TYPE.

Where the "agreeable eye" is exaggerated in form and takes on a decidedly *oblique* appearance, it then becomes, like all exaggerations, abnormal (Fig. 249), and in this form denotes a desire to be agreeable often at the expense of strict truth. It is hard for those of this type to be the bearers of unpleasant truth, and if sent upon an errand requiring severity they will soften and tone down the message before delivering it. This class often seem to be deceitful, yet do not *plan* to be; their natural desire to please everybody gives this impression.

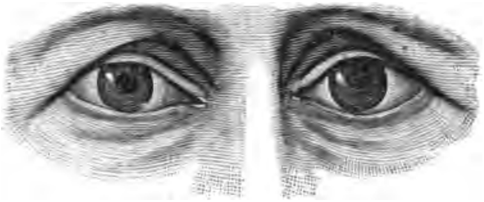

FIG. 249.—POLITIC EYE.

UNTRUTHFUL TYPE.

Still *further turned* downward, as is often seen in the countenances of dishonest politicians (Fig. 250) and salesmen, it exhibits the "law of *imperfect* curvation" or obliquity, by *downright agreeable lying* and planned deception, in order to further selfish schemes and be successful in trade or in society. It is this class of short-sighted philosophers who say that "policy is the best honesty," never dreaming that dishonesty is the worst policy in the world, and the most unsuccessful commercial theory.

Now let us note the departures from the normal curve or standard of form in the *upward* slant of the upper eyelid. This is the most vicious of the two phases of obliquity. When the outer corner of the eye turns slightly *upward* it indicates a slight degree of diplomacy or tact, or policy, or secretiveness, or caution. A more decided slant denotes deception, secretiveness, treachery, and cruelty even, as with the carnivorous animals, whose eyes are thus formed.

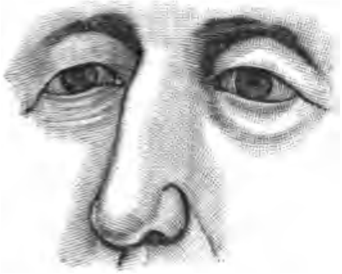

FIG. 250.—UNTRUTHFUL EYE.
(A POLITICIAN.)

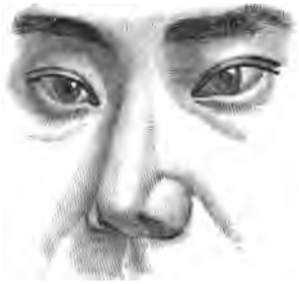

FIG. 251.—DOUBLE OBLIQUITY.
(A MONGOLIAN.)

UPWARD OBLIQUE.

Many professional criminals exhibit this form of eye It is also characteristic of the majority of numbers of the Mongolian and other low races.

DOUBLE OBLIQUITY.

Where the outlines of both the eyelids *slant* decidedly upward the character is deceptive, suspicious, and entirely untrustworthy (Fig. 251).

OBSERVING EYELID.

Particular attention is called to the *overhanging folds* of flesh and skin frequently met with in the outer corner of the upper eyelid (Fig. 252).

This peculiarity is most commonly seen in the eyes of the highest classes of accurate observers, such as mechanicians and scientists. It is most decided in old age. It is rarely met with in artistic faces, for the dominance of the muscular system raises the eyebrows to a high curve, and, as the eyebrows do not project much in these subjects, there is more or less space between the upper eyelid and the hairy brow; but in the more accurate classes the osseous is one of the supreme systems and the muscular subdominant; hence, the greater capacity for acute observation, the greater will be the projection of the bony superciliary ridges. As age advances the eyes of this class recede more and more, and, as the muscles and skin about the eyes become lax through long-continued use and shrunken by loss of elasticity, one or more parallel folds of flesh, skin, or fat appear, and often set far out beyond the eye, making the feature appear very small,—much smaller, indeed, than when in the youthful state. This should not be confounded with the *secretive* eye; the better *curvation* of the lids will reveal the difference. For examples of varying de-

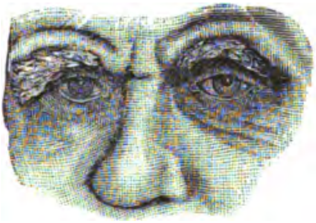

FIG. 252.—OBSERVING EYELID (CHARLES DARWIN.)

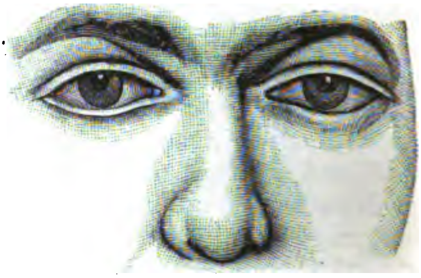

FIG. 253.—LICENTIOUS AND UNPRINCIPLED EYE. (PRINCE MILAN, OF SERVIA.)

grees of this trait, see the eyes of the following-named: Charles Darwin, Michael Faraday, Alfred Rupp, Robert Collyer, John Draper, William Cullen Bryant, John Smeaton, architect of the Eddystone Lighthouse, and James Watt, inventor.

LICENTIOUS AND UNPRINCIPLED FORM.

Another peculiar illustration of the basic principles of Form, as related to the eye, is found among the low types of beings, both in barbarous and civilized races, the apertures of whose eyes are very nearly closed by reason of the eyelids describing so slight a curve in crossing the eyeball as to show a very narrow slit of an elongated form, through which the eye seems peeping out (Fig. 253).

This form denotes a low sexual nature and untruthfulness. Now, *height* of any feature is one of the indications of *elevation* and nobility of the part of the character which is represented by such feature; yet, the "happy medium" also denotes excellencies. Straight features reveal more straightforwardness of conduct and speech than curved features. This law of *vertical measurement* applies with equal justice to the aperture or opening of the eyes as it does to other features. Where the aperture between the lids is of normal width, and the eyes straight and horizontally placed in their orbits, they indicate *normal morality* and truthfulness, but where this is greatly exaggerated, and they are much *too large* for the normal standard, they are unreliable. So, also, where the lids are *too close* together for normalcy, secretiveness, or deception, or mental inferiority of some sort is indicated, as well as undue acquisitiveness or sensuality. Now, in some subjects, one, two, or three of these traits may be present, and their presence will be corroborated by other signs in the face and body. The eyes of many noted criminals present this form; those known either for their

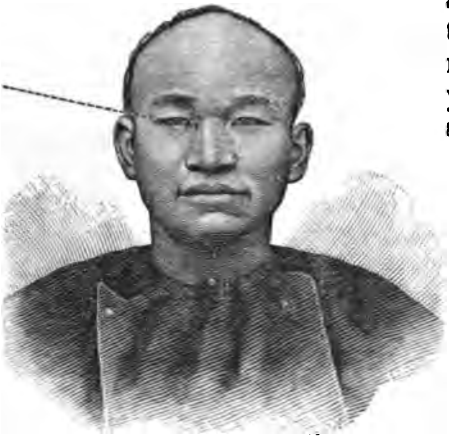

FIG. 254.—SECRETIVE EYE.

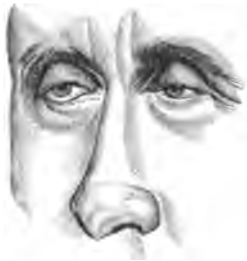

FIG. 255.—ACQUISITIVE EYE.

gross immorality, thievish propensity, inferior intellect, secretiveness, acquisitiveness, or avariciousness. The eyes of Jesse James, the notorious bandit, present both secretiveness and acquisitiveness large, while other of his features indicate other criminal or defective characteristics (Figs. 254, 255).

SECRETIVE AND ACQUISITIVE EYE.

In eyes of this class the angle at the corners is very *obtuse*, while in eyes that express the greatest degree of truth-telling capacity and the greatest degree of true or normal emotion, such as love, etc., the angles are very *acute*, forming almost a *square*, and in the eye thus constituted is found one of the most wonderful combinations of the true arch and the true curve that is to be met with in the human physiognomy (Fig. 256).

TRUTHFUL EYE.

The countenance that exhibits this noble combination of the basic elements of Form can be interpreted instantaneously by the application of the laws of Form. It is by this application alone that we are able to instantly comprehend the moral grandeur and heroism of Luther's nature. His round, wide-open eye, with its finely-arched lids and *acute angles*, announce his capacity for bold, fearless, and true sentiment. Fortunately for the verification of scientific physiognomy, his life-work attests the truth of its principles.

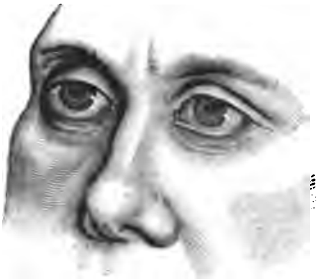

FIG. 256.—TRUTHFUL EYE. (MARTIN LUTHER.)

Among philosophic artists, Winckelmann, the great sculptor and art-writer, stands unrivaled; his conception of the principles of Form alone would stamp him a genius of the first grade; his analysis of the normal plan or design of the perfected face is thus concisely stated. He remarks:—

> The more oblique, for example, the eyes, as in cats, so much the more does their direction deviate from the fundamental form of the face, which is a *cross*, whereby it is divided in length and breadth, from the crown of the head downward, since the perpendicular line passes through the middle of the nose and the horizontal line through the orbits of the eyes. If the eye is placed obliquely, then the face is divided by a line, oblique to the vertical, passing through the nose. This, at least, must be the true cause of the unseemliness of an obliquely-situated mouth; for if, of two lines, one deviate from the other without reason, a disagreeable impression is produced. Such eyes, therefore, when found among us, and in Chinese, Japanese, and some Egyptian heads, in profile, are a departure from the standard. The flattened

nose of the Chinese, Calmucks, and other distant nations, is also a deviation, for it mars the unity of the form according to which the other parts of the body have been shaped.*

This artistic philosophy approaches very nearly a scientific analysis of Form, and is quite in accord (as far as it goes) with the physiognomical theories propounded by my system, and which are in accord with the basic laws of Form as exhibited by universal Nature.

NORMAL EYE.

The lower lid in a normal eye describes a true curve, not so highly arched as the normal upper lid. In all departures from a true curve in this feature we find a defect of some sort. In those in whom the bony system is dominant the lower lid is never so arched as where the muscular system is one of the supreme systems. Yet if the character be moral, a *true curve* will appear (if ever so slight) in its curvation; this form denotes a relative deficiency of muscle, hence expresses much less artistic and emotional capacity than where the curving is excessive. This grade of curvatnre is normal in those subjects in whom the osseous system is dominant.

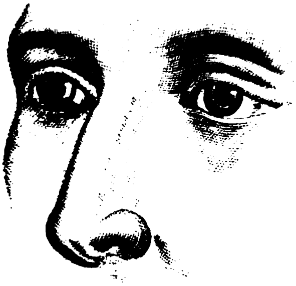

FIG. 257.—NORMAL EYE. (PRINCE NAPOLEON.)

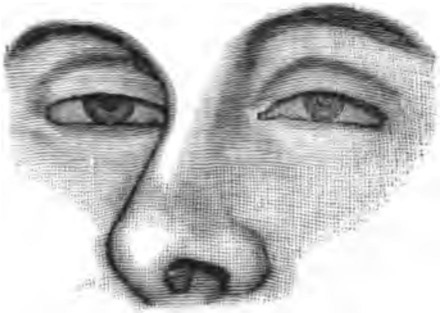

FIG. 258.—ABNORMAL EYE. (JESSE JAMES.)

ABNORMAL TYPE.

An abnormal form of the lower lid is reached when it draws an almost straight line across the eyeball, forming, in connection with the upper lid, a narrow, slit-like aperture, such as is observed in those who are excessively secretive or avaricious. (Fig. 258.)

This form is also often seen in the physiognomies of misers and among avaricious races, notably among the Arabs, Turks, Hindoos, and other Orientals, as well as in many barbarous races.

This appearance is frequently met with in the eyes of congenital criminals, and in their case the curving of both the upper and lower lids is imperfect, and in many subjects the eyeball is obliquely placed cat-wise in its socket. The signs of villainy are more apparent in the eye and mouth than in any other features, and where these deviate from normal standards of form the moral sense deviates in just the same degree from the highest standard of rectitude.

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* Winckelmann's "Ancient Art," vol. ii, p. 85.

The excessive mobility of the muscles of these features makes them peculiarly susceptible, either to improvement or degradation, and as both are facial signs of the faculty of Language, so all deviations in them from normal forms betoken abnormal peculiarities of speech, as well as modifications in several other related faculties and functions.

The eye is one of the facial signs of Amativeness as well as of Language. The power and capacity for sex-love, as well as for the *sentiment* of love, is shown in the eye by its form, size, color, lustre, quality, position, movement, and humidity.

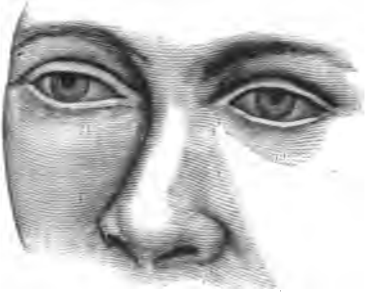

FIG. 259.—"POLYGAMIC EYE."

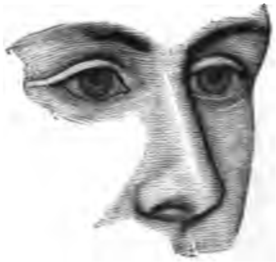

FIG. 260.—"MONOGAMIC EYE."

Prof. Willis' idea of the "monogamic" and "polygamic" eye applies to certain-shaped eyes with truth, but as he gives no analysis of these forms it remains for me to do so in connection with the figures that illustrate them. In this search after underlying principles we have not far to go, for the law of the angle and the curve, with an application of their *inherent* meanings, affords us all the light necessary to translate their forms into character. The "polygamic eye" (Fig. 259), so called, is in some races both narrow and oblique, as in the Chinese and Japanese, and these people practice and have practiced polygamy for ages; their eyes denote a lack of sexual ethics, which the true curved eye, with its acute angles, indicates. This latter curvation is caused by the line of the lids springing sharply upward and downward from the corners, and it is this form of roundness that characterizes the "monogamic" (Fig. 260) and the "conjugal" (Fig. 261) eyes.

Each of these eyes has its modifications and corresponding characteristics. The above figures illustrate the two extremes of sex-love, viz., promiscuous attachment and exclusive attachment. The forms of these eyes are in harmony with the physiognomic principles of elevation and lowness, as seen in the finely-arched eye of Fig. 257 and the low character shown by the irregularly drawn line of Fig. 254.

In these examples the law of the square or angular principle is dominant in the eye that is perfectly curved, for in order to produce two fine curves there must be an *acute angle* at their intersection. This combination of the acute angle and the true curve indicates the highest degree of pure and true monogamic love. The other illustrates the law of the *obtuse* angle and imperfect curvation, and thus shows the presence of a lower grade of true and pure Amativeness.

The normally-amative eye I term the "conjugal eye," for, as the polygamic eye is the exaggeration of the normal type, the former is the mean between the two extremes. The conjugal eye is found in its highest form in those men and women who love but *once* in a life-time, and who, through the fidelity of their attachment and the peculiar structure of their emotional natures, can never again experience the same degree of affection that characterized their first love. The normal conjugal character is one which may admit successively of a second or even a third or fourth attachment, but is capable of being faithful and true to each while the attachment lasts. This class of people marry a second or third time if deprived by death of their marital partners.

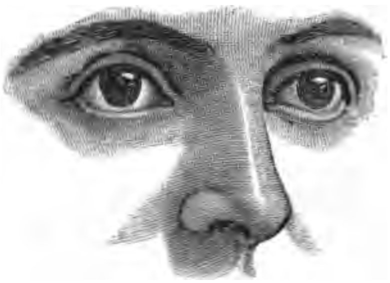

FIG. 261.—CONJUGAL EYE.

There are a large number in every community who can be happy and contented only in the conjugal relation; these are pre-eminently conjugal characters, and their grade of Amativeness is quite as normal and far more practical than that of the ever-mourning husband or wife who rejects a second love, and who go through life a sort of peripatetic monument, refusing to be comforted in a sensible manner.

The polygamic eye is met with in all civilized races, and is not confined to the barbarous or semi-civilized tribes. It is more frequently met with among men than among women. Women are more naturally monogamic and more conservative than men. These two factors added together create that intensity of conjugal fidelity which holds the family and society together.

In this field woman is man's protector, for the pure-minded, faithful wife is often the power that holds the vacillating footsteps of her husband from straying after strange goddesses.

In woman the "polygamic" eye is indicative of a love of admiration, and vents itself in girlhood by "flirtations" and a craving for promiscuous admiration and attention, yet many such women make admirable wives when offered the homage of a manly heart; the finer nature of a woman modifies indications considerably; the circumstances of *quality* must always be taken into account. Some women, like many men, are polygamic in their natures, and always desire the love and attention of more than one man. Many men live polygamic lives even in Christian communities, and seem capable of giving a great deal of love to several women at the same time; these are *perversions* of the normal standard of true love and of true marriage. It is this class that demoralizes humanity and destroys the good order of society, for fidelity to the marriage vow is the foundation of health, of morality, of the family, and of the government. Many men of this class live lives of open shamelessness, and thus encourage those who are tempted by the strength of their passions to do likewise; they do not exhibit the virtues of hypocrisy even, for a hidden vice is not as demoralizing to the young as one that is constantly flaunted in their faces. Example is a most potent incentive. It has been said that "hypocrisy is the tribute that vice pays to virtue;" not always is this tribute offered, and thus open viciousness attracts the morally-weak and often destroys them.

Each eye reveals the power or weakness of the love-nature of its possessor. Very large convex eyes (if well colored) denote great sex-love and also a great deal of the *sentiment* of love, while very small, flat eyes indicate a feebler degree of the sexual propensity and its associated sentiment; a little more or a little less development of the muscular system makes all these differences. Muscle is the tissue that enables man to express the emotion of love, and all of the great visceral organs that assist reproduction are comprised in the muscular system, and are the bases of the sentiment of love and its associated physical function.

In the animal kingdom the forms of the eye indicate precisely the same traits that they do in the human family. The eagle, dove, and many other birds are monogamic in their attachments, and keep strictly to one companion and illustrate the highest type of the family institution. Several of the deer tribes and other animals exhibit in their lives this high moral condition of love, while the hog and other low breeds are as polygamous as the Turk or Chinese. The eyes of the monogamic animals are round and wide open, presenting the acute angle and the true curve, while the polygamic animals reveal the lowest types of the law of Form, having the eyes obliquely set and narrow between the lids; this is the form of the hog and many of the small as well as many of the large carnivora. The square-boned lion is monogamic, while the round-boned cats and other similarly-constructed animals are polygamic. All this goes to prove that the knowledge of mind and character must be sought for in anatomical and physiological structure, guided by the application of physiognomic laws.

The general outline of the round-eyed monogamic individual corroborates the meaning of the eye. The most ardent lovers and prolific people are round, and this form denotes the ascendency of the muscular system, and this system is the best adapted, not only to feel and express emotion, but it is also best adapted to reproduction. This principle of roundness—of muscular supremacy as indicative of generative capacity—runs all through animated Nature. All animals which possess this form are more amative and more prolific than the square-boned beasts; this is conceded by other observers.

I have not made extensive comparisons in the vegetable kingdom, but I believe that an application of the principles of Form will reveal similar results. So universal are these basic principles that one is justified in believing that their power is everywhere dominant.

THE SIZE OF THE EYE.

There are great diversities of *size* of the eyeball in adults as well as in children, and their differences will be found to accord with the general muscular endowment of the entire organism, for as the eye and its attachments are the facial representatives of the muscular system, so the larger the eyeball and its attachments the more developed will be this system throughout; and, conversely, the smaller the eyeball the more deficient will the muscular tissue be.

Many eyes seem small that are not really so at all. The eyebrows project beyond them in such manner as to hide their real size, as is often observed in mechanics and scientists. The true development of the eyeball may be ascertained by the appearance of the flesh and muscles about the orbit, as well as by the arching of the eyebrows; the latter are always more highly arched when the ball is large. Again, if the ball be large the cheek just below the eye will be well filled out even in old age; whereas, if the ball be small this part of the cheek is somewhat sunken, and is never so firm and full as where the muscular is one of the supreme systems.

It is a law of structure that wherever there is a large muscular organ the attached muscles are always relatively large, and that where the muscular system dominates the bony system the eyeball, as well as the muscles of the lower lid and the muscular fibres of the upper cheek, will be so well developed as to fill out the part of the orbit just beneath and around the eye; but where the bony system is *dominant*, or one of the dominant systems, the eyeball is relatively smaller than in the preceding case, and recedes under the brow considerably, while the orbit appears less full, and in advanced age the *soft* parts just beneath the eye are quite shrunken and wrinkled, and the eye appears to grow smaller and smaller, while the brow appears to project more and more. This appearance is due to the shrinking of the muscular tissues and skin about the orbit, as they lose some of their elasticity and firmness as age advances. This is particularly the case with mechanics, scientists, and naturalists. Charles Darwin's physiognomy is a good example of this peculiarity. The eyes of great observers are always smaller than those of artists, and the eye-bones of the former project more than those of the latter, and this causes the eyeball to look smaller than it is in reality. The eyes of all classes who observe closely, and who also think profoundly, are formed upon this plan. In relation to this rule Lavater observes thus:—

> The following is a sign that has never deceived me: When the bone of the eye is prominent you have the sign of a singular aptitude for mental labor—of an extraordinary sagacity for great enterprises.

The small appearance of the eye that is produced by the projection of the eye-bones must not be confounded with that smallness which is caused by the projection or fullness of the *cheek* beneath the eye. The latter appearance has quite a different meaning from the former. It denotes a common, vulgar mind, given to gluttony and sensuality. The surroundings of the eye, the bones, the hairy brows, the wrinkles, the folds of flesh or skin, the space between the eye and brow, as well as the lids and upper cheek, all add to or take from the apparent size of the eyeball. Some eyes are set very deep at the inner corner and stand out well at the outer corner, while others are the reverse of this. Some eyelids are well arched at the inner corner and less arched at the outer corners; all these variations produce different expressions and diverse characteristics, and modify the appearance of the size of the eye; hence, in order to arrive at a just idea of the real size of the eye all these circumstances must be taken into account.

Many medium- and large- sized eyeballs look small from the fact that the eyelid covers a large portion of the eyeball; this peculiarity is observed in many of the Oriental races, and also in large numbers of the Celt and Celt-Iberian races. This is one of the facial signs for Acquisitiveness. In these cases the large, globular contour of the eyeball, half covered by the upper lid, gives a sort of dreamy expression to the eye, and as it is often observed in the eyes of many talented persons it has been regarded by some physiognomists as one sign of talent. I do not so regard it, for I observe it in the eyes of many ordinary individuals. It is, however, never found except where the muscular is one of the supreme systems; hence, it is often seen among the artistic classes. Very many talented artists have been noted for their large Acquisitiveness, and even for its perversion—avarice.

There are three general sizes of the eyes, viz.: Large (Fig. 262); medium (Fig. 263); and small (Fig. 264). The large eye may be very convex, or it may present a more flattened appearance; each of these forms denotes specific differences. So, also, the medium-sized eye may be full and globular or flattened on the surface. These differences again argue diverse characteristics. The large, globular, convex eye is often met with in the countenances of great actors, singers, orators, and painters. This size of eye indicates the highest capacity for receiving impressions and for depicting and illustrating emotions. The eyes of David Garrick, Fechter, and Blanche Barretta, players; of Grattan, Beecher, and Summerfield, orators; of Edgar A. Poe, Robert Burns, and Whittier, poets; of Madame de Staël, novelist; of Rubens, Van Dyck, and David, painters,

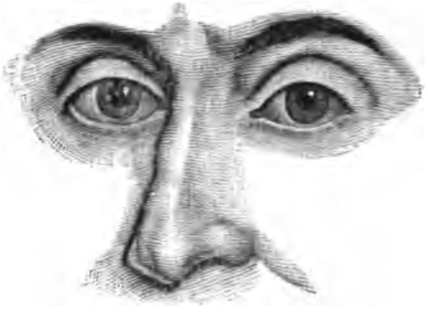
FIG. 262.—Large. (DESCARTES.)

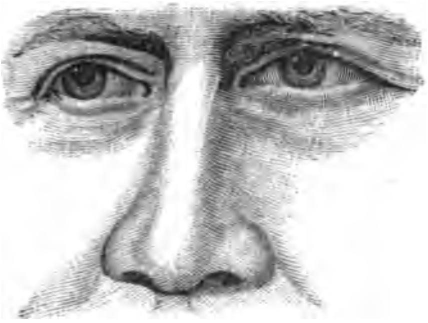
FIG. 263.—Medium. (FREDERICK II.)

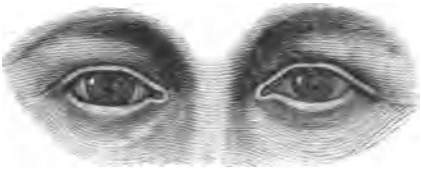
FIG. 264.—Small.

THREE GENERAL SIZES OF THE EYE.

disclose this form. Their eyes in youth all appear much larger than in portraits taken in later years. It will be noted that all their eyes recede *slightly* under the bony brow, or at least do not set *too far forward* beyond it, nor beyond the plane of the cheek; hence, they argue a degree of good sense, judgment, and accuracy.

The largest eyes among artistic productions are found in the countenances of the ancient Greek sculptors; their idea in creating such exaggeration of size and roundness was to give their subjects a majestic or divine look, as they understood these qualities; hence, the more closely the eye approaches these exaggerations the farther is it from the normal standard, for these forms reveal characteristics not in accord with the best standards of human form, as shown by scientific physiognomy. The same is true of the so-called "Greek" nose. This nose is described by a *perfectly straight line* descending from the forehead without the *slightest incurvation* at the junction with the nose, as seen in the statues of Jupiter, etc. Were we to find this line in the countenance of a human being it would be the indication of a monstrosity, far removed from nobility and characterized by unbridled will and gross selfishness.

Very large eyes denote exaggerations in the use of language. Very small ones indicate silent, secretive characters—both deviations from a normal development of that feature and faculty. The medium size indicates fluency without volubility. Other factors besides mere size must be taken into consideration in order to comprehend the linguistic capacities of each subject as well as the moral use of language. The largest-sized eyes belong to the artistic and emotional classes; the medium to the more observing and thoughtful minds, while the very small to those of weak organization, either morally, mentally, or physically. Those with very large, convex eyes are never profound, logical, and observing, but are more impulsive and emotional. The eyes are relatively large, wide, and round in youth; hence, children are more emotional and imitative than reflective.

All great orators and eloquent speakers possess large, round, and full eyes, which are humid and lustrous, and when under great inspirational excitement they become luminous and fairly blaze with earnestness and excitement. Although orators possess large, round eyes, they do not exceed a certain degree of convexity, else they would indicate fluent "gab" but not good sense and eloquence. The gabbling, ranting orator is often seen at city street-corners vending corn-plaster, hair-dyes, or "Universal Pain Killer;" his eyes will perhaps present the "bulging" appearance of a lobster, and the mouth of the "professor" will be as extensive as his lips, and they will correspond in size, besides being coarse and ugly-shaped.

There are grades of linguistic capacity ranging all the way from the grandly eloquent to the fluent, easy, graceful conversationalist down the scale to the ordinary common talker, and so on to the silent, thoughtful writer, whose language is fluent only on paper. Then follows the very secretive, monosyllabic individual, whose small and narrow eyes reveal all that his lips refuse to utter.

Medium-sized eyes, that are of normal form and well colored, are indicative of a fine degree of linguistic power, observation, and reflection, but other signs in each individual can modify and affect their appearances; therefore, the mere fact of medium size is not absolute as to leading characteristics. Medium-sized eyes in connection with a projecting, bony brow denote close and accurate observation; this combination is characteristic of mechanicians, scientists, and naturalists, for in these classes accuracy must be had in order to facilitate true and authentic accounts and correct imitations of the subjects or phenomena observed; hence, Nature in creating such individuals makes the bony system one of the dominant systems, and this causes the eyebrows to project, and this projection screens the eye and assists in shutting off the *superfluous* rays of light in order that the eye may be more easily brought to a focus. Again, the bony system is one of the most stable, firm, and true tissues in the organism, and affords all the necessary elements of character required for patient, persevering, truthful research, such as is essential to science and mechanism. The chief office of the eye-bones and eyebrows is to assist in excluding the superfluous rays of light from entering the sight; hence, the greater the projection of the bone and muscle, and the more bushy the hairy brows, the better is the eye adapted to instantaneous and accurate vision,—a quality of sight more particularly needed in those pursuits that require the greatest degree of acute observation.

EXPRESSION OF THE EYE.

The eye owes much of its beauty and expression to the lids, the lashes, the brows, the adjacent lines, folds, and wrinkles; the orbits, the cheek-bones, the size and form of the upper cheek, the lustre or lack of lustre, and the color of the iris, the lashes, and hair of the brows. The eyeball standing out naked without its fleshly environment would exhibit very little expression, and even if it were in motion would not be an agreeable sight.

The humors of the eye, as well as the colors of the iris and retina, assist in giving it expression while in a state of repose, but when the emotions are aroused to a high degree of activity the glands, humors, and nerves all conspire to produce an unusual degree of brilliancy. The mild emotion of affection causes quite a different grade of brilliancy from that produced by the terrible gleam of diabolic passion which appears in the eye of the murderously-inclined, insane victim; so also the brightness of intellectual power is quite different from the brilliant glitter of the egotist or conceited simpleton. These several varieties of lustre are caused by chemical changes in the elements of the tissues, as well as by the mechanical movements in the constituent molecules; but, whatever be the cause, *motion* is at the base, and the eye is the facial representative of the *most active* portion of the motive apparatus of the organism—the muscles; hence, the eye defines the presence of other faculties and functions besides strength and love of movement. The arching of the lids—particularly that of the upper lid—assists expression. The sharpness or obtuseness of the angles, the manner in which the eyes are placed in the orbits, the convexity or flatness of the cornea, each adds its quota of expression. and reveals positive and diverse characteristics. The eyes are modified in their expression by the form of the cheeks, the height or flatness of the cheek-bones, the color of the complexion, brows, and hair; their nearness to or distance from the nose, and the shape and size of the upper part of the nose. A great deal of ocular expression would be lost were we to inspect the eye through two apertures made to fit the eyes exactly. This experiment would demonstrate how much facial expression is derived from the eye and brow. The eye is greatly indebted to the form, size, and color of the other features for its expression. Each class of minds exhibits a similarity of structure peculiar to itself.

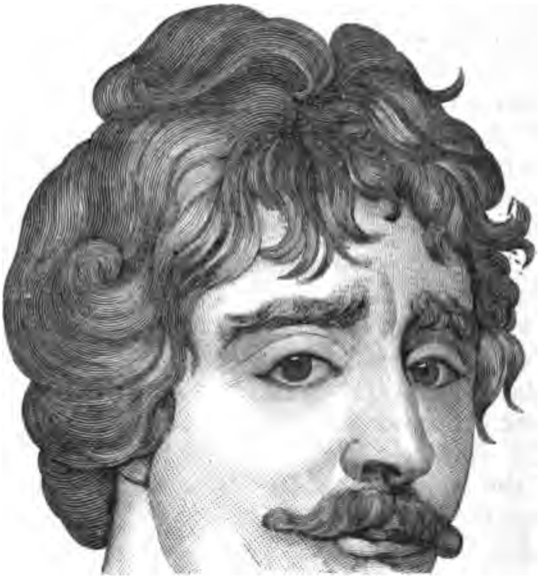
FIG. 265.—ARTISTIC EYE. (QUESNOY.)

ARTISTIC EXPRESSION.

The artistic classes, as a rule, have large, full, sparkling, vivacious eyes, generally well colored, either black, blue, or brown, and adorned with an evenly-arched brow placed at some distance above the eye, and exposing a wide space between the lid and eyebrow (Fig. 265). These peculiarities create an alert, wide-awake and attractive expression.

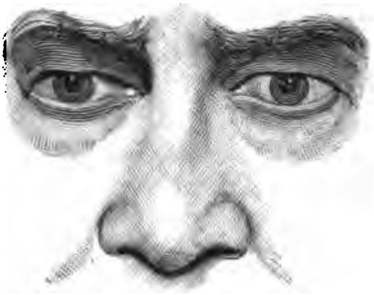

Fig. 266.—OBSERVANT EYE. (SIR J. BANKS.)

OBSERVANT EXPRESSION.

The eyes of profound thinkers, on the contrary, are usually smaller, with less brilliancy, and slower in motion than the former, and exhibit a calm and steadfast gaze, while the hairy brow is of a horizontal or semi-horizontal form, and is brought down *near to the eye*, leaving little or no space between the eyebrow and eyelid, thus giving a thoughtful, observant expression to the eye.

MAGNETIC EXPRESSION.

The magnetic eye is very rare, and is always of deep color,—usually black or brown and large and luminous. It is associated with attractive qualities and a love for the occult and abstruse in Nature. Fig. 267 shows the eyes of Graf Reichenbach, the originator of the "odic-force" theory once popular in Germany.

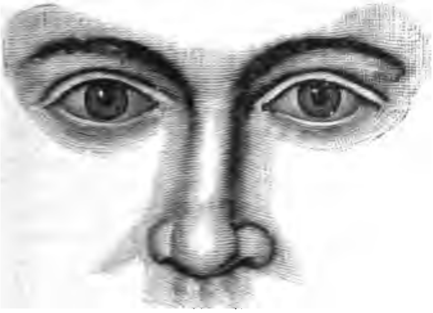

Fig. 267.—MAGNETIC EYE. (GRAF REICHENBACH.)

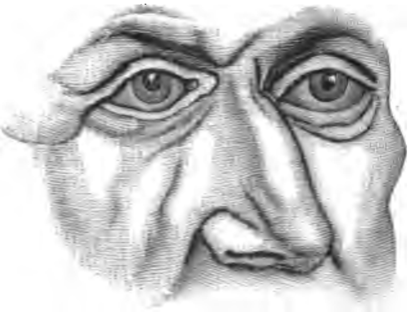

Fig. 268.—BRUTAL EYE.

BRUTAL EXPRESSION.

Those whose eyes are always dull in expression and slow in motion are congenitally stupid or brutal, and lacking in intelligence, force, and sensibility; these indications usually accompany a low grade of physical development. This class generally inherits a tendency to epilepsy, insanity, or scrofula, especially if the eye be ***very light***, dull, and "fishy" in expression.

GLUTTONOUS EXPRESSION.

Eyes that show a considerable portion of the white *below* the iris denote gluttony, or at least a tendency to overeat, and I always suspect their owners wanting in capacity for profound thought.

SHALLOW AND PASSIONATE EXPRESSION.

If the white is seen *above* as well as below, there is certainly great shallowness of intellect. If the eye show a great deal of the white of the eye all around the pupil, the character is passionate and the mind lacking depth and balance.

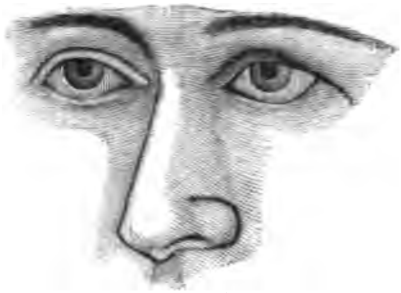

FIG. 269.—GLUTTONOUS EYE.

This peculiarity gives a simple, stupid, half-foolish expression, and this expression is accentuated if the eye projects beyond the eye-bones. Characters possessed of common sense and good intellect have the eye somewhat covered by the upper lid; yet if the eye cover too great a portion of the eyeball we shall find that Secretiveness or Acquisitiveness is present. Here we have a departure from the normal standard of lid-curvature, and we have learned that all departures from normal forms denote abnormal characteristics. An opinion from Dr. Cross on this point indorses my own rule, and I here apply it. He observes:—

> The eyeball taken by itself is purely predaceous. Naked eyeballs standing in open sockets convey to the imagination a picture of unbridled temper, and the less the eyeballs are covered with eyelids, the more scope is allowed to the predaceous tendency. On the contrary, the more the eyeball is covered with lids, the more are the dispositions under prudential control; and the more powerful the lids, and the better furnished with lashes, the more vigorous is the prudential system. The eyelids, whenever they retreat so far from the pupil as to lose command over the entering rays, are guilty of a dereliction of duty detrimental to *distinct* vision; here there is a want of the prudential system. So also whenever the eyelids approach each other so much as to intercept the free admission of rays from the object to the retina, here the prudential system is in excess; here is that *over-caution* which defeats its own purpose.*

How much of sound physiognomic philosophy is contained in the preceding sentences! Not only do the peculiarities of the lids modify the function of sight, but they at the same time reveal mental and moral conditions, for eyes with the lids *closely* drawn together are often met with in congenital rogues, liars, sneaks, and avaricious beings, while eyes *too wide open* show not only inaccuracy of vision, but also its accompanying moral or mental defect—absence of capacity for accurate or truthful description of what is observed. Those eyelids that permit a normal portion of the eye to appear are the best indicators of normal mind and integrity, as well as of normal sight. The normal eye of the artistic classes is larger than the normal eye of the scientific or mechanical classes. The exaggeration of these two normal forms and expression, viz., those that are too large, or those that are too small, or those that show too much of the white, or those that disclose too little of the eyeball for normalcy, are to be considered as departures from a correct standard of form and expression, hence are the indicators of peculiarities of character and function not in accord with the *best examples* observed. Disease and dissipation, as well as congenital villainy, produce somewhat similar expressions. The eyelids of debauchees and drunkards become lax through a weakened condition of the related muscles and nerves, and thus they lose their natural tension, and are drawn nearer together than when in health. The lower lids of the licentious and dissipated fall away and expose the inner margin, which appears red and watery in the drunkard, and pale-bluish and wrinkled in the victims of unbridled lust. Yet the physiognomist is able to discern whether disease, dissipation, or native villainy has produced these several appearances. Overuse of the eyes, as in prolonged application in reading and writing, tends to relax the muscles of the lids, and causes the upper one to droop.

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*An Attempt to Establish Physiognomy on Scientific Principles, p. 26.

A great deal of healthy and beautiful expression arises from the natural lustre and humidity of the eye. In abnormal characters these two factors of expression vary considerably. The humidity is caused by the secretions of the glands of the eye and lids, which in healthy subjects constantly secrete a lubricating fluid, which serves several purposes. In the first place, it assists the eyeball in rotating. This fluid also serves the purpose of moistening and dissolving the particles of dust which in a dry state would cause great irritation. The lustre of the eye arises partly from its humidity and partly from the quality or fineness of the nervous mechanism. Now, moisture of the lips and eyes are evidences of healthy action in both of these features, while dry eyes and dry lips reveal unhealthful conditions; it follows that whatever appearance denotes health is more beautiful than the opposite indication. Physicians are guided in their diagnosis of disease by the dryness and moisture of these features, as well as by the dryness or moisture of other parts of the head and face; the brilliancy of the eye, too, undergoes many pathological changes during the progress of disorders, and these varying appearances are of great service to physicians as indications of abnormal conditions, and no intelligent doctor neglects their warnings.

As the eye is one of the most important facial signs of love or Amativeness, its size, form, color, lustre, humidity, and expression would naturally reveal to the physiognomist the inherited grade of amative sentiment. It also reveals normal and abnormal conditions of the reproductive system—the functional base of the sentiment of sex-love. If the eye be bright, animated, and humid, with the lids of a normal tension and color, the reproductive system, as well as the associated sentiment of Amativeness, is normal; but if these indications are absent, functional disturbances in this system may be inferred, and if these symptoms are permanent the defects become permanent also.

The *manner of moving* the eyeball and eyelids is a source of expression rich in physiognomic meaning. There is as great divergence of movement between the wide-open, direct regard of the upright character and the furtive, sidewise glance of the narrow, oblique eye as there is in the moral and mental characters of these two diverse classes.

The eyes of children are used with great freedom of movement, and their glances fall with equal freedom upon everything that attracts their childish curiosity. This utter *abandon* shows natural innocence, simplicity, and absence of restraint. The eyes of the untrained rustic and the equally roving eye of the licentious and unrefined roll about with freedom, revealing in turn every emotion as it passes through their undisciplined brain and muscles.

Refined, disciplined, self-controlled, and intelligent characters use their eyes in a far different manner from the above-named classes; they move them in a precise and orderly way; they do not roll them in astonishment nor gaze with bold stare about them. The eye of the truthful, honest person looks straight forward without boldness and without humility. It is not true, however, that only the guilty or criminal look away when addressed by others; the very sensitive, shy, and most innocent often cast sidelong or downward glances while conversing, but their shyness is corroborated by other signs. The movement of the eyes of the artistic classes is more unrestrained, vivacious, and the expression more animated than those of the more reflective classes. The latter have an expression of thoughtful intelligence, and, although the eye of this class is nearly as bright as those of the former, the motions are not so rapid, but move slower and more in harmony with that deliberation essential to accurate observation and calm reflection, thus showing the presence of reason rather than of emotion.

An excellent study in the physiognomy of the eye can be made by watching the movements of the eyes of the criminal classes. The peculiar shape of their eyes produces quite a different set of movements from those made by a normally moral eye. An oblique or crooked eye or mouth is incapable of making the kind of movements that are made by these features when straight. Their movements leave impressed upon the surrounding parts entirely different-shaped lines and wrinkles, hence we are able to classify the resultant lines and wrinkles as "moral," "immoral," "kind," "mirthful," "witty," or "ill-humored," etc. Lines and wrinkles are indisputable records of the class of thought, speech, and actions which have been *dominant* in the life of the subject, and no amount of dissimulation can erase them.

All this goes to prove that every act of the individual, if oft-repeated, becomes registered upon his countenance and adds its quota to make up what we term "the expression of the human face."

The folds and wrinkles of the eyelids and surrounding parts are highly indicative of character. The principal fold of skin observed at the inner corner of the upper lid is termed the "nictitating membrane." This is a small crescent-shaped fold of skin, which is quite large in some eyes, but very small or hardly discernible in others. It is one of those useless rudimentary remains, many of which are found in various parts of the body. Professor Haeckel tells us, in regard to this organ, that

> Our skulled ancestors had, in addition to the two eyelids, a third eyelid,—the nictitating membrane,—which was drawn over the eye from the inner corner. Many primitive fishes (*Selachii*) and amnion animals yet retain this. In apes and in man it has atrophied and only a small remnant of it exists in the inner corner of the eye, as the "crescent-shaped fold" is a useless rudimentary organ.*

This fold is a very decided agent in the expression of the eye; so also are the folds formed by age in the eyes of the most observant classes, as is noted elsewhere in the description of the forms of the eye.

NICTITATING FOLD.

The "nictitating fold is quite pronounced in the orbits of Daniel Webster, Prof. Richard Owen, Hiram Powers (sculptor), and large numbers of people of all grades of intellect.

The color or lack of color in the cheeks assists expression. A bright, rich, red color in the cheeks contrasts well with black eyes, and thus they intensify each other's color and beauty. Some inartistic and unobservant belles very erroneously put artificial color (where Nature has withheld it) high upon the cheek-bones. Now, this is a bungling attempt at imitating Nature's method. Color is rarely found high upon the cheek-bones of young people. It is usually observed in the cheeks of aged people in this situation. Youthful cheeks exhibit their color upon the lowest part of the cheek, and in some subjects it appears below the cheek under the lower jaw as well.

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* Evolution of Man, Ernst Haeckel, vol. ii, p. 259.

Blue-eyed people require both red and white to make their eyes expressive, unless they are very fair indeed, for when this class becomes sallow the eye loses much of its beauty of expression because the difference between the blue eyes and the yellow skin is not sufficiently decided to make a pleasing contrast. Sallowness is the sign of an abnormal state, hence is opposed to beauty, and thus also it becomes a physiognomic sign of a torpid liver or other disorder.

The color of the brows and lashes are effective agents in expression. The thickness or sparseness of the brows and lashes produce differences of expression. As a rule very bushy brows, especially if black or dark, denote a strong constitution, while very thin brows, if very light, indicate delicacy, either of the nervous system or of the general system.

Thus it will be noted that very many factors, in connection with the eye, assist in giving it physiognomic expression and meaning. Should the reader desire to know what constitutes *beauty* of expression I shall refer him to the theory which is found running through this entire system of physiognomy, viz., that the scientific idea of moral, intellectual, or physical power, wherever found,—in whatever feature or part of a feature it is displayed,—discloses true beauty of that feature or portion of a feature which discloses a certain sign of a capacity for morality, intellect, or usefulness of some sort.

The manner in which the eyeballs *incline*, whether forward or backward of the lower lid, produce most decided diverse physiognomic meanings, as well as of variety of expression. As a rule, eyes that are horizontal in their sockets, and which set back somewhat under the eye-bones, are normal, while those that bulge out beyond the brows and the plane of the cheek are abnormal. This peculiarity is the sign of a rude and shallow mind, while eyeballs that incline from below backward suggest timidity and organic weakness. Eyes too convex belong to noisy, wordy liars and braggarts. Thus each divergence of the eye from its normal position denotes a departure from the normal type or standard, and thus indicates the moral or immoral grade of the subject.

THE EYELASHES.

The lashes of the eye, like all ciliary appendages, are primarily for purposes of protection, and as all features, however simple, are revelations of character, so the eyelashes are indicative of certain characteristics peculiar to themselves. As a rule, muscular people possess the longest and most beautiful lashes; they are also more *curved* in this class of individuals than in the bony classes, the basic laws of Form here as elsewhere asserting their influence.

The lashes may be (*a*) long or short, (*b*) straight or curved, (*c*) thick or thin, (*d*) regular or irregular, (*e*) dark or light. These are the chief peculiarities of these features. Like all external appendages, they serve more than one purpose, consequently they *reveal* more than one meaning. Their use primarily is protective, and the more perfectly they are adapted to that purpose the more perfect and beautiful they are.

I do not intend in the last sentence to convey to the reader that there is only *one form* of beauty in this feature; there are many. *Adaptation* has its forms of beauty, and, although a beautifully curved lash looks well with a large, lustrous, muscular eye, it would not be adapted to a small, receding one; hence, adaptation is a factor of true beauty. Science broadens our conception of everything, and a truly scientific knowledge of the face is bound to enlarge our ideas of beauty, which art (like all infantoid knowledge) has limited to a very narrow compass.

It is among the æsthetic and artistic classes that we find the best-developed lashes, both under and upper; for the projection of the bony brow of these subjects is so slight as to necessitate a compensating development of these features. The eyes of the osseous classes are protected by the projecting bony brow, a protective environment which can easily dispense with long, curved lashes.

Both the upper and lower lashes in all subjects are more or less curved; the upper lashes turn upward or outward, the lower lashes turn downward or outward, and always in such manner as not to entangle each other. Muscular people exhibit the principle of the curve in every part of the body, even in the curving of so minute a portion of the physiognomy as the *lower* lashes, which, in this class, are more curved than in the osseous or mental subjects.

Long, curved, fine, regular, silken lashes are seen in the countenances only of refined characters possessed of delicacy of feeling and sentiment; many artistic countenances exhibit this form, notably poetic and histrionic faces.

Straight, coarse, thick, and projecting lashes are associated with characters possessed of more bluntness and vigor than refinement, and are found with the osseous system well developed. Thin, scattered, light-colored eyelashes betoken delicacy of physique and in some subjects a consumptive tendency.

If the lashes are sparse as well as brown in color, a degree of constitutional vigor may be present, yet the nervous system may exhibit a good degree of sensitiveness.

Long lashes denote characteristics opposite from those revealed by short lashes; when long, well-curved, close, and fine, a certain degree of shyness and timidity will be exhibited. Shyness and timidity are modified forms of Secretiveness, and very long, curved lashes reveal the fact that their owner is too shy or too timid to be perfectly frank and outspoken. Short, thick lashes denote directness of speech, amounting in some instances to blunt rudeness.

Long, well-curved lashes, if coarse, are accompanied with Secretiveness, for the lashes are used for the purpose of *concealing* the motions of the eyeball, as well as for protecting it, hence they serve to partially hide the varying expressions of the eyes.

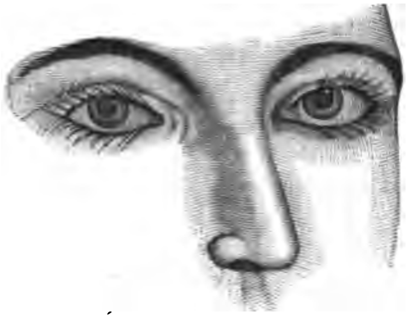

FIG. 270.—BEAUTIFUL EYELASHES. (DUCHESS OF LEEDS.)

Inasmuch as the eyes are the features which most assist the expression of the emotions, so all the appendages, however minute, reveal minute grades and shades of the emotions; hence a lash a little longer or a little thicker in one than in another discloses a different degree of the faculties of Love and Language, as above indicated, showing that in one subject outspoken bluntness will be exhibited, in another shyness or slyness, or modesty or secretiveness in words and actions. Long, drooping eyelashes are very effective agents in love-making and coquetry, and speak eloquently when they are suddenly raised and reveal a pair of eyes full of mischief or melting tenderness, and speak quite as eloquently when lowered to conceal pathos, sorrow, modesty, or other soft emotion. It is thus seen that nothing in the human physiognomy is too minute to contain or reveal a meaning; this will be better apprehended when we come to the analysis and description of lines and wrinkles in the face and body.

The color of the lashes is usually darker than the color of the hair, although in certain blond types it is much lighter, being very light—in fact, white, in some subjects. Color of these features has the same signification that it has in all the other features, and as the subject of Color has been so exhaustively treated elsewhere it need not be elaborated here.

Specimens of very beautiful eyelashes may be seen in the portraits of Madame Recamier, and the famous Caton sisters, of Baltimore; Ex-Queen Nathalie, of Servia; Empress Josephine, and the Countess of Blessington.

THE INTERCILIARY SPACE.

There is one portion of the face which is very little understood, and to which very little attention has been paid, yet which is of great importance as an indicator of character. I allude to the interciliary space, *i.e.*, the area between the upper lid and the eyebrow (Fig. 271).

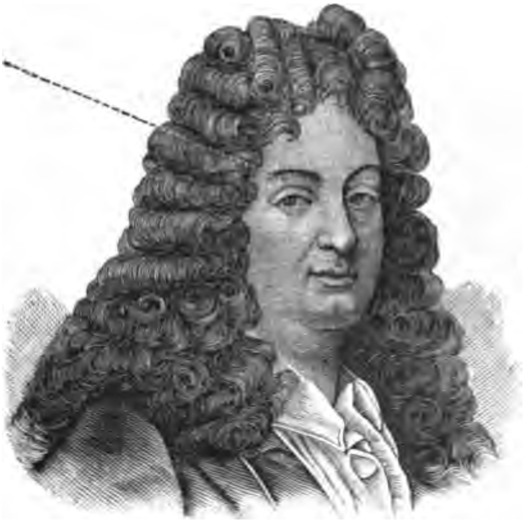

FIG. 271.—ARTISTIC INTERCILIARY SPACE. (RACINE.)

ARTISTIC INTERCILIARY SPACE.

In artistic faces this presents a space wider than in the mechanical, for the former have a relatively slight projection of the bony superciliary ridges and a considerable arching of the muscular and hairy processes of the brows. It is the absence of forward projection of the bony superciliary arch which produces the wide interciliary space observed in the physiognomies of artists.

SUPERSTITIOUS TYPE.

If this space is excessively widened so as to pass the bounds of normalcy, it is a certain sign of a grossly superstitious mind, incompatible with common sense and sound reason. In a modified degree it is found in the faces of many poets, divines, and painters; the eyebrows are highly arched in these subjects.

Where the interciliary spaces are very slight it will be observed that the eyebrow is very nearly horizontal, or horizontal and angular at the outer extremity.

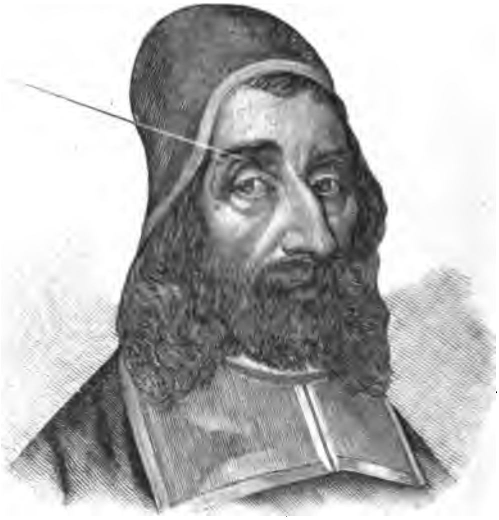

FIG. 272.—SUPERSTITIOUS TYPE OF INTERCILIARY SPACE. (RICHARD BAXTER.)

The presence of the line and angle in this place instantly reveals the class to which the subject belongs. This one line alone shows him to be an observer, hence one is justified in deciding that his mind is more practical than imaginative. In this case the bone will be the dominant tissue, and the brows will be more projecting than in the case of the artistic classes; in them the law of the curve or arch prevails. The shape of the hairy brow determines the upper boundary of the interciliary space, while the curved outline that marks the form of the eyeball indicates the commencement of this space. Observers are urged to pay great attention to this part of the physiognomy, as promising a prolific field of physiognomic research and signification. The following-named individuals reveal a very wide interciliary space, and are all within the artistic class; observe, for example, the upper part of the face of the following named: Milton and Dante, poets; Pascal and Mirabeau, orators; Sarah Siddons and David Garrick, players; Wickliffe, Swedenborg, and Bossuet, divines; Marie Roze, Eugènie, Pappenheim, and Albani, singers.

The countenance of all persons who show a very decided talent for any form of decorative art presents an interciliary space more or less wide, and this arch, thus exhibited, determines the class to which such individuals belong.

The following-named persons belong to the more observing classes, hence the law of the straight line and angle marks the shape of their brow and limits the interciliary space to a narrow area, in some instances completely hidden under the bony projection. See, for example, the physiognomies of Thomas Jefferson, General W. T. Sherman, Charles Darwin, Sir John Herschel, and Humboldt.

The forms of the eyelids and brows are nearly related to the interciliary spaces, and we shall be obliged to observe closely these two features, especially the latter, in making an estimate of character based upon the significance of these spaces.

It will be always found that when the muscular system is dominant, or one of the dominant systems, the interciliary space will present a greater area than is the case when the bony system is supreme. This is yet another proof, added to the numerous ones already cited, of the homogeneity of structure; thus, each feature, and every minute portion of a feature, reveals and corroborates the form of the *entire structure*, as well as its dominant mental characteristics.

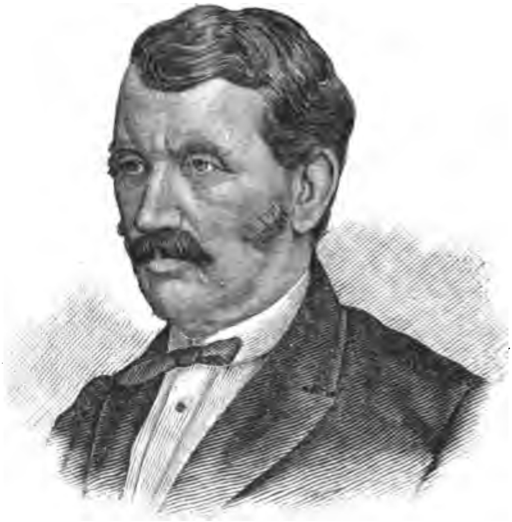
FIG. 278.—OBSERVANT TYPE OF INTERCILIARY SPACE. (DAVID LIVINGSTONE.)

The widest interciliary space I have found among the Chinese and Japanese, and these races are both artistic and very credulous, as witness their very superstitious religions and belief in charms, omens, and incantations. The Oriental races generally exhibit a broader interciliary space than is observed in the physiognomies of the Northern and more practical peoples.

In almost all cases where the interciliary space is wide the forehead is perpendicular, or nearly so, and where this space is narrow or invisible the forehead is usually more or less receding. These appearances are corroborative proofs of the supremacy of muscle and bone, for where the forehead is perpendicular, or nearly so, the muscle is regnant, and where the forehead recedes more or less the bone is dominant; and in these co-ordinated forms of interciliary space with forehead we have a fine lesson in comparative anatomy, as well as in demonstrative physiognomy.

Physiognomic forms reveal numberless co-ordinated and complex relations of function with feature, as, for example, when the outline of the nose is straight the forehead is generally perpendicular, and the involuntary muscles as well as the muscular system are supreme, or one of the supreme systems of the organism; here muscle tends to straight lines instead of curves.

The cause lies deeper than these outlines, for they are the effects, not the causes, of their straight appearance. The supremacy of the heart and stomach over the liver and lungs conduces to form these lines, for I have observed that where the lungs and liver are excessively developed and active the outline of the nose is more or less arched, either greatly or slightly, the forehead receding, the septum of the nose projecting, and the chest arched. Now, the interciliary space depends for its form primarily upon the dominance of organs apparently quite disconnected with it. I have said that there is a long physiological history attached to every feature and every part of each feature, and I here reiterate it. We can in this instance trace this relationship farther back than has been done in the above instance, but sufficient history is here given to show the methods of scientific physiognomy and the complex relations of function with feature. A very narrow, scarcely discernible interciliary space is indicative of good powers of observation, and is found in the faces of mechanicians and scientists (Fig. 273).

THE EYEBROWS.

The *use* primarily of the hairy brow is to protect the eyes from descending particles of dust or moisture. Each separate feature is, as we have formerly seen, supplied with protective appendages, or placed in such position as to receive the cautionary assistance of other features, the eyes and ears, for example.

The eye, being the most delicate of all the features, is surrounded by several strong defenders, as is observed in the lachrymal glands, the lids, the projecting bony environment, the flexible superciliary muscles, the closely-placed lashes, and the hairy brows.

The *form* of the *hairy* brow (usually termed "the eyebrow") is dependent primarily upon the underlying bony development for its external shape. The corrugator supercilii and orbicularis palpebrarum muscles assist in shaping the brow.

The hairy brow is a feature of *motion* by reason of its muscular relations. The eyebrows, therefore, of the muscular races are more elastic and more active than those of the osseous races, hence we observe in the Celtic races and artistic classes greater spontaneity and rapidity of movement of these features than in the Saxon, or Scandinavian, and other osseous peoples and mechanical classes.

The Spanish, Italian, and French use their eyebrows very expressively, and thus show that the muscular system dominates the osseous. The more northerly and osseous people rarely move the muscles of the eyebrow, unless it be the corrugator supercilii, the use of which is to approximate the eyebrows for the purpose of assisting accuracy of observation, which is the main purpose of the practical classes.

The excessively muscular formation of the brows of the ideal or artistic classes shows both the ability and desire for motion, and the form resulting from muscular movement is a curvilinear one, hence the eyebrows of this class are of a curved or semi-curved shape in their main outline. Observation of this line alone will give us the main drift of the associated intellect, whether it be artistic or mechanical, practical or imaginative.

In some subjects the brow is wide and thickly covered with dark hairs, in others it is narrow and exhibits a few straggling hairs. Between these two extremes there are many varieties, as the brows of one person would not harmonize with the features of another, for observation will show that the brow is quite as individualized as any other facial feature. Yet there are certain general rules in regard to its form, size, color, and quality by which this very important feature may be translated into character, and would reveal traits which are at present a profound mystery to onlookers. In this feature, as in all others, we have had to apply the basic laws of Form in order to discover the meaning which each individual brow reveals.

The law of the line, the angle, and the curve applies to the eyebrow, and each brow describes in its outline some one of these simple outlines, or else a more complex, composite, or modification of two or more of these elements of Form.

The law of normalcy or correct standard of *form* and *space* applies to the eyebrows and their surroundings as well as to all other features. This law must be apprehended in order to obtain a correct understanding of what is normal as well as of what constitutes a departure from the normal standard.

We observe that the principal concomitants of the brow are form, width, motion, color, position, direction, and space or distance. Each of these factors assists us in unfolding the meaning of each individual eyebrow. Among these factors space, or the normal distance of the brows from each other, and of the brow from the lids, must be taken into account. A very wide interciliary space between the lids and the brows reveals just the opposite characteristics from that found associated with an eyebrow which is brought close down to the eye, and presenting little or no interciliary space between.

Eyebrows that are situated *far apart* indicate qualities *quite different from those that are joined in the centre*, and which form an unbroken line,—every minute variation here, as elsewhere, denoting differences which may be highly significant and important.

The general direction of the two extreme points of the brows must be noted, together with the form, outline, facility of movement, the color, the width or narrowness, whether bushy, luxuriant, or sparsely covered with hairs.

All these circumstances belong to the physiognomy of the eyebrow, and serve to reveal and corroborate the meaning of other parts and features, and point out and reveal other anatomical peculiarities of the face and body.

The first consideration of the brow will be naturally its general form, whether curved, or straight and horizontal; next, the direction of the termini. In endeavoring to understand the full significance of this feature we must note several circumstances, as follow:—

(*a*) The inner terminus, where it commences, whether close down to the eye or whether there be a medium or wide interciliary space between it and the eyelid;
(*b*) The outer extremity of the brow, whether it be high above the lid or whether it be lowered down in close proximity to the eye;
(*c*) Whether it join the opposite brow in the middle or whether there be a space between them;
(*d*) The width of the space;
(*e*) How nearly the brows resemble each other in form, direction, and hairy development (there is often great disparity in these appearances);
(*f*) Whether the general form of the brow describes a straight line or a curve;
(*g*) Whether it be long or short;
(*h*) The direction of the inner terminus, whether it be upward, downward, or horizontal;
(*i*) The direction of the outer terminus, whether it be straight or outward or upward or downward;
(*j*) The height of the middle portion of the brow above the lid.

The general *direction* of the outline is worthy of observation.

(*k*) The line may be straight and horizontal or straight and obliquely placed, as in the Chinese, for example;
(*l*) The obliquity of the straight line may tend upward from the inner terminus of the brow, or,

(*m*) It may tend downward from the inner terminus;
(*n*) It may be straight part of its length, commencing at the inner end, and describe an angle at the exterior end;
(*o*) It may form a curve at the inner end and an angle at the outer end.

The accompanying figure exhibits the most commonly observed forms of the eyebrow. All others are composites, blends, or modifications of these several general forms. (See Fig. 274, Forms of the Eyebrow.)

In applying the laws of form to the eyebrows attention must be given to the chief constituent tissue, whether it be of bone or of muscle, also whether the bones belong to the round or to the square class. If the bones are rounding and the muscles dominant, a high arch will announce this fact, and also reveal to which class of mind the subject belongs.

It is impossible for a square-boned subject to exhibit an arch in this feature, for the law of the straight line appertains to the square bone, and the straight line indicates characteristics quite the opposite from those produced by the curve.

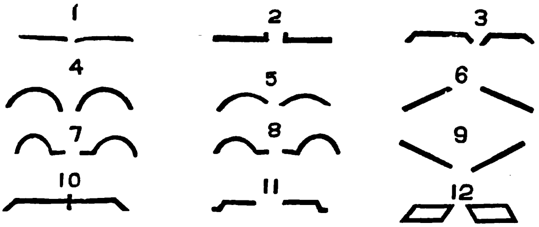

FIG. 274.—FORMS OF THE EYEBROW. (After Lavater.)

"The above are twelve forms of eyebrows, all of which *may* accompany understanding, though 10 can with difficulty; 11, less difficultly; 8, more; 6, very difficultly; 4, most; 1, 2, and 3, on the contrary, scarcely can accompany folly; 12 is form of understanding such as can scarcely be deceived."

The individual peculiarities in the combinations of bone and muscle are the cause of the many diverse forms of eyebrows observed in different individuals. Not only are the eyebrows different in form in each individual, but rarely do we find them alike, or even nearly alike, in the face of a given subject. The right and left eyebrows, like all the features in the majority of faces, are usually characterized by absence of bilateral similarity, thus proving that discrepancies occur in the form of the bones and muscles of the opposite sides of the face, as well as in the opposite sides of the head and body.

The theory brought forward by several anthropologists and physiognomists, viz., that the right side of the organism represents the father or his family, and the left side resembles the mother or her family, may account for these (in many subjects) very striking discrepancies; how far this may be an hereditary influence cannot be, I think, exactly determined. There are many other very decided influences affecting the bilateral development of the body, viz., (*a*) the more frequent use of right hand and side than of the left hand and side, and (*b*) the law of imperfect curvation, whereby opposite sides of the several features of the face are made to differ in size, form, and position by reason of an unequal distribution of the elements of nutrition during prenatal existence, or from other causes. Which of these causes contributes most to the inequalities observed in the facial features must be determined by a skilled physiognomist in each individual case, and in these cases the skill of the examiner will be put to its *highest* test.

In endeavoring to expound the physiognomic significance of the eyebrows I shall do so by the application of the basic laws of Form, as with all the other features, and shall commence the translation of form into faculty by observation of the inner terminus of the brow, and first as to the position of the several parts of the brow.

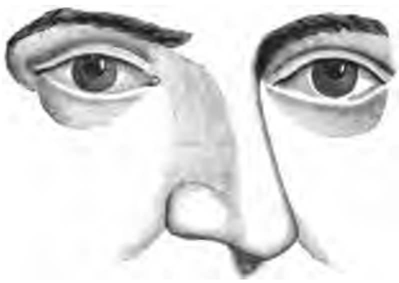

FIG. 275.—POSITION OF THE INNER TERMINI OF THE EYEBROWS.

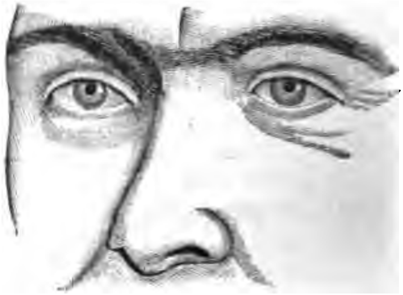

FIG. 276.—CONCEITED EYEBROW.

NORMAL POSITION OF THE INNER TERMINI.

A normal development of the hairy brow discloses a space between the inner termini, and this space is proportional to the size and shape of the eyes and other features in the immediate neighborhood (Fig. 275).

THE CONCEITED BROW.

If the brows meet in the centre and form a continuous line, it is a departure from the highest standard of form of this feature. This peculiarity is always associated with a certain degree of *conceit*, more or less pronounced, according as the subject is secretive or voluble. If, with this form, the brows are thick and the hairs dark or black, it is an indication of great vital powers as well as of conceit. I have observed this appearance in the faces of many Hebrews, yet it is to be met with in all civilized races. Lavater remarks of this peculiarity that he "could not consider it beautiful," yet he "found in it the most open, honest, and worthy countenances."

Eyebrows *extremely far apart* at the inner termini are seldom found associated with good practical sense, although other signs modify this indication; yet all departures from and exaggeration of normal standards must be regarded as in some degree indicating an abnormal condition of faculty and function. I have observed this appearance in large numbers of Mongolian faces, and the Mongolian is, as a rule, grossly superstitious.

THE OBSERVING EYEBROW.

Where the inner termini of the brows grow closely down to the eyes (Fig. 277) it is a most decided sign of an accurate observer, and accurate observation leads to a true understanding of the objects or occurrences observed; hence, practical sense is the result. Individuals thus characterized are adapted to such trades and professions as require accuracy, truth, and practical judgment, such traits as are manifested in mechanics, scientists, naturalists, etc., for the laws of physics are based on the laws of Nature, hence of truth, and he who can best comprehend truth must possess a large share of it in his own constitution; and these signs of this trait are most conspicuous in the face as well as in the body of all who possess a talented degree of truth and integrity.

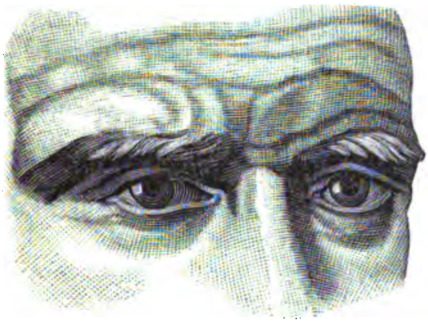

FIG. 277.—OBSERVING EYEBROW.
(HUMBOLDT.)

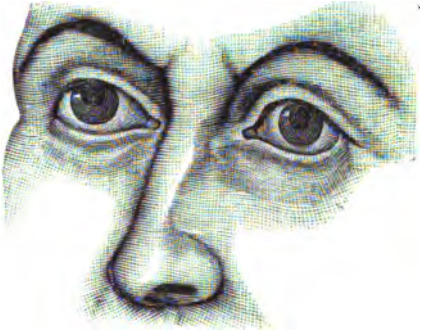

FIG. 278.—CREDULOUS EYEBROW.
(CORTEZ.)

My observation on this form of eyebrow is in accord with Lavater. He remarks:—

> The nearer the eyebrows are to the eyes, the more earnest, deep, and firm the character; the more remote from the eyes, the more volatile, easily moved, and less enterprising.

THE CREDULOUS EYEBROW.

If the inner terminus of the brow commences at a considerable distance above the eye (Fig. 278), causing a wide interciliary space, it is positive assurance of a credulous mind, for those with this peculiarity of structure lack the first essential of accuracy, viz., a suitable development of the eyebrows such as the practical classes possess; hence they accept upon hearsay, without examination, many improbable theories and statements. The more wonderful they are, the more readily they accept them, and the more pleasing they find them. The eyebrows of all the grossly superstitious races present this appearance.

The eyebrows of that class of writers, orators, artists, poets, and divines whose works and speech are characterized by imagination of wonderful and impossible scenes and beings exhibit modifications of this peculiarity. Examine, for example, the eyebrows of Milton, Dante, Raphael, Swedenborg, Mahomet, Loyola, Mirabeau, and Doré; in each instance there will be found varying degrees of that credencive spirit which was manifest in their life-work.

An eyebrow thus placed denotes in ordinary characters a love of fiction in art and literature, a taste for the marvelous in religion, and a relish for the sensational in neighborhood and public news.

This trait belongs to the artistic class more particularly, and is most largely developed where the muscular system is in the ascendant, as the peculiar *arching* of the brow will demonstrate.

Where the inner end of the eyebrow arises at a moderate distance above the eye, exhibiting only a medium degree of interciliary space, the character will be more keenly observant than the former, and will combine a modicum of both the mechanical and artistic capacities. Such characters are adapted to certain branches of both these departments of labor, and an average amount of practical sense will be manifested.

POSITION OF THE MIDDLE OF THE BROWS.

THE IMPRACTICAL BROW.

If the eyebrow presents a very wide interciliary space (Fig. 279), causing the eyebrow to form a very high arch, it denotes a half-foolish, impractical, unreasoning character. Of this eyebrow Lavater observes:—

> I never yet saw a profound thinker, or even a man of fortitude and prudence, with weak, high eyebrows, which, in some measure, divide the forehead.*

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* Essays on Physiognomy, C. Lavater, p. 388.

THE ARTISTIC BROW.

Where the brow is highest at about two-thirds of the distance from its inner terminus (Fig. 280) it denotes artistic capacity, and this peculiarity is found in this locality in the countenances of most good and great artists. It is more decided as age advances, and is caused by the frequent raising of the brow in order to observe the artistic effect of the work in hand.

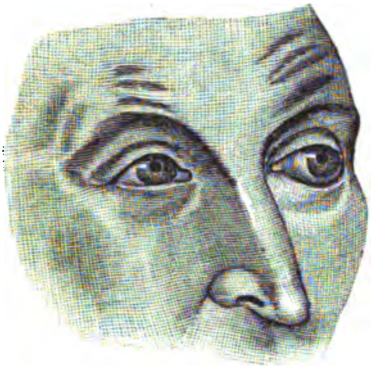

Fig. 279.—IMPRACTICAL EYEBROW. (Walmesley.)

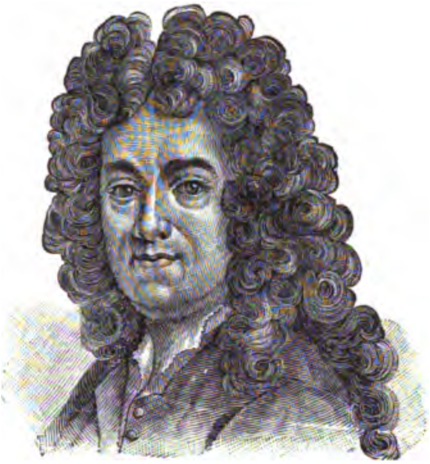

Fig. 280.—ARTISTIC EYEBROW. (La Bruyère.)

Having now considered the indications of interciliary space at the inner end and centre of the brow, we proceed to investigate the position of the *outer* extremity of the eyebrows.

Position of the Outer Termini.

THE ARITHMETICAL BROW.

The positions which are observed at the outer end of the brow give great variety of expression to this feature. A wide space between the outer angle of the eye and the terminus of the brow (Fig. 281) is found to be widest where the muscular is one of the dominant systems, and denotes calculative ability. It is most pronounced in the countenances of astronomers, physicists, surveyors, good arithmeticians, mechanicians, architects, and inventors of machinery, and is general in those races in whom the muscular system is supreme.

The following are two of the most common modifications of the arithmetical brow: If the outer terminus turn slightly downward, and leave a moderate degree of space between it and the corner of the eye, a medium degree of arithmetical calculation may be predicated.

Where the brow turns downward at its outer extremity, and inward toward the corner of the eye, either by a curve or angle, leaving little or no space between it and the eye, it denotes only a *very slight* amount of the calculative faculty.

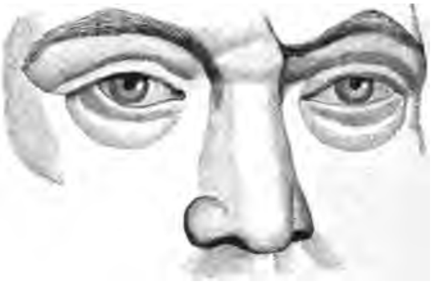

FIG. 281.—ARITHMETICAL EYEBROW. (DELAMBRE.)

THE DECEPTIVE EYEBROW.

Obliquity of outline, when very decided, denotes obliquity of action or the opposite of straightforwardness, and eyebrows with a very pronounced upward slant from the inner termini (Fig. 251), are infallible indicators of deceit, craft, and treachery, and if the eyes are very light in combination the character will be cold, malignant, unfeeling, cruel, and brutal.

There are several modifications of this brow; one form is somewhat less oblique than the former, and denotes much less talent for deceit, but is *not altogether* reliable. The character accompanying this form will exhibit a certain degree of secretiveness, and indulge in small tricky ways and resort to useless sly methods.

Another modification is shown by a scheming, calculating disposition, both worldly and arithmetical.

THE ÆSTHETIC EYEBROW.

Long, narrow, and regularly arched brows, covering well-arched eye-bones, are found in the faces of persons possessed of order and æsthetic tastes; these traits will be exhibited in a variety of ways—in elegance of personal adornments, in the artistic, tasteful, and orderly arrangement of furniture and surroundings, and by a love of art-objects, such as pictures, statues, bric-a-brac, etc. If the brow is black or dark in color the color-sense will influence the selection of dress and appointments, and these will be of most decided and brilliant tints. If the brow present a lighter color in conjunction with this form, the preference will be for more delicate shades. If possessed of literary or histrionic

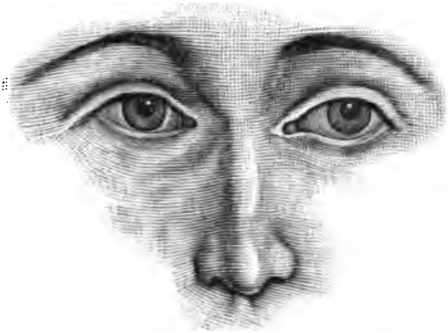

FIG. 282.—ÆSTHETIC EYEBROW. (EX-EMPRESS EUGÈNIE.)

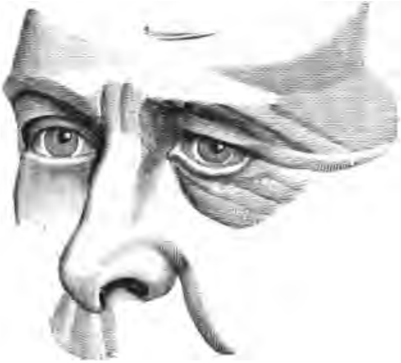

FIG. 283.—INVENTIVE EYEBROW. (ELIAS HOWE.)

talent, elegance of style and sentiment will be the distinguishing characteristics. See the physiognomies of Buffon, Pascal, Charlotte Brontê, Addison, Shelley, Vandyck, Madame de Staël, David Garrick, and Mendelssohn.

The peculiarities of this type of eyebrow are its curvilinear form, length, color, narrowness, and regular arrangement of the hairs.

THE INVENTIVE EYEBROW.

The most conspicuous marks of what I term the inventive brow are its thickness, depth of color, length of the hairs, and bold and disorderly arrangement of the hairs, particularly at the ends (Fig. 283). The brows of Carlyle, Darwin, and S. F. B. Morse are admirable specimens of this type. The characteristics above described reveal a bold, original, inventive or creative mind in some department of mental labor. Those who exhibit this peculiar type of brow think and act outside of the conventional groove, and are given to discovery, exploration, creation of original theories and methods in art, science, philosophy, mechanism, warfare, statesmanship, or theology. To know to which of these directions the mind will be turned the student must look for other signs in combination. The following-named eminent men disclose eyebrows of this class; see, for example, the portraits of Carlyle, Charles Darwin, John Pierpont, John Knox, General Scott, Abraham Lincoln, General Napier, Lord Shaftesbury, Rufus Choate, Beethoven, Wagner, and Michael Angelo.

THE VITAL EYEBROW.

A brow that is wide, either straight or curved, of medium length, thick, and dark-colored or black, is an indication of constitutional vigor. It is often observed in its straight form in the countenances of iron-workers and other mechanics. When arched it denotes more of an æsthetic tendency. This type of brow is seen only in the countenance of vigorous, strong-willed, passionate characters, good lovers, and good haters.

THE DELICATE EYEBROW.

Observation of the physiognomies of many individuals in whom the nervous system is extremely sensitive, and also one of the dominant systems, will disclose eyebrows that are thin, light-colored, and the hairs straggling, in some cases scarcely visible. This appearance denotes qualities the opposite to those indicated by the vital eyebrow; those with this variety of brow are sensitive, mild, and delicate, with not much muscular development nor great vitality. If the brow be dark or black more constitutional vigor is present than with the light color.

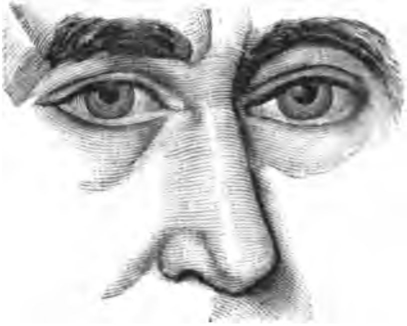

FIG. 284.—VITAL EYEBROW.
(JOHN STEPHENSON.)

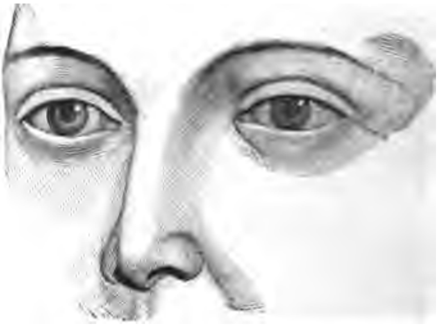

FIG. 285.—DELICATE EYEBROW.
(CHARLOTTE CORDAY.)

MOVEMENTS OF THE BROWS.

The affluent muscular endowment of the hairy brow gives great facility of movement, and the movements of the brow are rich in physiognomic signification,—not only so, but the lines, folds, and wrinkles, caused by the continuous muscular movement of the brows, stamp their record of active thought and feeling upon the physiognomy.

There is a profound yet subtle meaning revealed by the surroundings of the eye, particularly in regard to the emotional nature, for *movement* is adapted to the expression of emotion, and emotions, if often exercised, never fail of leaving their imprint behind. Love, sensuality, mirth, anger, parsimony, gluttony, and secretiveness, all alike leave traces about the eye that are easily recognized by the keen observer. The lids in particular, by their condition, give us unmistakable knowledge of both temporary and permanent condition of health, ill health, excesses—both sexual and alimentive—long continued, joy, grief, or prolonged study and close and habitual observation; all these are independent of the pathognomonic changes which disease produces; these changes belong to the *mind* of the individual, and are purely physiognomic.

Let the student place before him one dozen portraits of characters of advanced age of diverse pursuits, and make a study and comparison of the appearances, surroundings, and appendages of the eye, and he will become convinced that these phenomena are highly significant of character, and *indisputable records of life and mind.*

In order to comprehend the full physiognomic meaning of the movements of the eye we must analyze the uses of the several muscles involved in producing these movements, and also the use of the resultant movements as well. Orbicularis palpebrarum is the broad muscle that surrounds the orbit of the eye. (See Fig. 126, at the head of this chapter.)

Its *use* is to close the eyelids chiefly by depressing the superior, the levator muscle of which it directly opposes. It also serves to press the tears inward toward the punctata lachrymalia; the superior orbital fibres can depress the eyebrow and aid the corrugator supercilii in drawing it, as well as the eyelids, inward, and oppose the occipito-frontalis and shade the eye; the inferior fibres can raise the cheek, raise and draw the lower eyelid inward, and compress the lachrymal sac which they cover.

Corrugator supercilii arises fleshy and tendinous from the internal angular process of the os frontis, passes upward and outward, and is *inserted* into the middle of the eyebrow, mixing with the orbicularis and occipito-frontalis muscle; *use*, to depress and approximate the eyebrows, throwing the skin of the forehead into *vertical wrinkles*, as in the act of frowning. This pair of muscles are voluntary, but they cannot act separately; they directly oppose the occipito-frontalis and shade the eye.*

Observers will discover that the observing and thinking classes of minds use the internal portion of the orbicular muscle most, *i.e.*, that portion which enables the eyebrows to approximate as they do when the subject is employed in close observation or in deep reflection. The middle and outer portion of the eyebrows are used by the more emotional classes; hence actors engaged in portraying light characters move the centre and outer extremities of the eyebrows, but in delineating grand and thoughtful characters they move the brows less frequently and the inner termini mainly. These actions are based on the natural and instinctive movements of these two diverse classes, and imitated by the skillful player in his representations of various characters; he not only imitates the voice, gesture, and movement of the brows, but paints upon his face with his cosmetic pigments the diverse lines, folds, and wrinkles which observation has taught him belong to the several distinct classes of characters.

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* Practical Anatomy, Robert Harrison, p. 28.

Those persons who move the eyebrows frequently are to be suspected of a rather feeble grade of intelligence, and possessed of more emotion than thought.

There is one class of individuals who think that an appearance of hauteur is an indication of superior character; it is the class who raise the eyebrows upon meeting a stranger whose position socially they regard as inferior to their own. They are the *supercilious beings* one often meets in society, and the frequent use which they make of their eyebrows, to show (as they think) their high tone, is an infallible sign of the absence of true worth and nobility, for *assumption* of superiority is but the substitution for the genuine quality. Nobility of life and conduct are as easily discerned by our associates as are treachery and lowness, and we have only *to be* what we would wish to have others think we are in order to receive credit for the same; hence excessive movement in raising the eyebrows in this manner has led to the term "supercilious."

Those in whom the bony system is supreme rarely move the eyebrows, and then only to draw the eyebrows down at the centre in order to bring the eye to a focus. Painters raise and lower the inner end and centre of the brow, while actors run the whole gamut of ciliary movements in order to express every variety of character.

The deceitful and cruel raise the outer extremity of the brows, and show great mobility of this part of these features. Cats, whose brows are oblique, possess the same flexibility of the outer termini of the brows. Elocutionists, however, develop a marvelous degree of power in the superciliary muscles, and study to produce a degree of flexibility of these features which will enable them to produce, in conjunction with the eyelid and upper cheek, nine hundred movements.*

Of the movement of the eyebrows, Lavater remarks:—

> The motions of the eyebrows contain numerous expressions, especially of ignoble passions—pride, anger, and contempt; the supercilious man (*supercilium*, an eyebrow) despises and is despicable.

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* Delsarte System of Oratory.

THE COLORS OF THE EYEBROW.

Color in the eyebrows denotes precisely what it does when found in the other features of the face. Very black brows, if narrow, long, regular, and arched, announce a nature intense, and, with æsthetic tastes, more imitative than original. Very light colored eyebrows denote characters whose emotions and passions are more superficial than the former, and the intellect generally only ordinary.

While brown eyebrows indicate a medium between these two extremes, fine reddish brows show considerable fervor and ambition, but when they are coarse it is assurance of strong animal passions.

The color of the eyebrows, taken singly, is no indication of intelligence or absence of intelligence. The underlying *form* gives us the clue to the direction of the faculties; the color of the eyebrow is a secondary indication, not a primary one. Color shows the degree of power, but, as the subject of color has been so fully discussed in former chapters, it is not necessary to elaborate it in this connection.

The Forehead.

The several forms of the forehead observed in the human face are composed of combinations of the line and curve, the square and angle. To this feature, as to all others, the basic laws of Form apply with the utmost certainty.

There are three general outlines in the profile of the forehead. These are the perpendicular, the projecting, and the receding. In the full face we observe the square and the curved or rounding forms; all other forms are modifications, compounds, or blends of these two primary shapes.

The normal, perpendicular forehead (Fig. 286) is observed most frequently in the artistic classes; among poets, painters, and æsthetic minds generally. It is usually accompanied by a straight nose; and straightness of these two outlines in combination always announce a taste and capacity for art of some sort; other signs in combination will give us the direction of this taste or talent.

The perpendicular forehead assures us of the supremacy of the muscular system, and one attribute of this system is its absence of sensitiveness; that is to say, relative absence. Muscle has not the sensitiveness of the nervous tissue, but when accompanied by a fine quality of nerve and brain it can manifest a considerable degree of mental sensibility, as well as artistic delicacy of touch, sound, etc., and results in artistic plans and methods. Those who exhibit this form of forehead have never the warmth, fire, enthusiasm, sympathy, and sensibility which distinguishes those with the receding forehead. In the latter the lungs are large, the chest arched, and this peculiarity of bodily structure creates energy and feeling, and gives the force requisite for active sympathy, for executive ability, for warmth and fervor.

The normally-receding forehead (Fig. 287) is one that slopes backward somewhat, yet not too far backward. It is indicative of energy, balanced reasoning powers, sympathy, enterprise, practicality, mechanical ability, executiveness, and progress. Many celebrated orators and actors of the highest rank exhibit this outline in their forehead. Mirabeau and Gambetta, French orators of the most fervid and intense type, present this form of forehead; the portrait of Kemble, the eminent English tragedian, also exhibits a receding forehead.

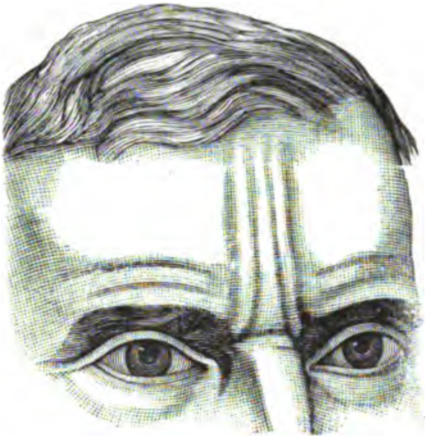
FIG. 286.—PERPENDICULAR FOREHEAD.

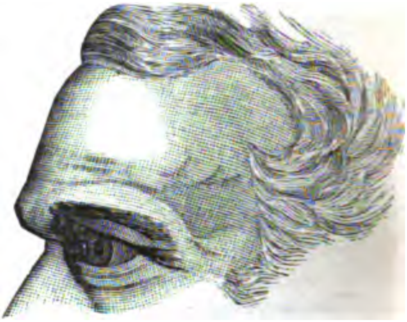
FIG. 287.—RECEDING FOREHEAD. (EX-GOVERNOR BUCKINGHAM.)

THE PRACTICAL FOREHEAD.

Among the thousands of the most practical and observing men whose foreheads exhibit an outline more or less sloping than the former, I may mention the late President Garfield, Peter Cooper, Abraham Lincoln, Captain James Cook, Richard Arkwright; William Harvey, M.D., discoverer of the circulation of the blood; the Duke of Wellington, Sir Moses Montifiore, Father Matthew; Liszt, musical composer; John Stuart Mill, David Livingstone, Richard Whately, C. H. McCormack, Sir Rowland Hill, and Presidents Washington and Jackson. I have mentioned many instances of this receding outline of forehead for the reason that popular opinion ascribes to this outline limited intelligence, based on no reason whatever, or knowledge of the facts; it is one of those baseless physiognomical heresies that are current in the community. This form of forehead is characteristic of active, enterprising, pushing, enthusiastic natures in every department of intellect, as the above comprehensive group will show. These are taken from almost every department of mentality, and could be added to far beyond the limits of this section.

THE PROJECTING FOREHEAD.

The third type of forehead—the projecting—(Fig. 289), that is to say, the forehead which projects from below *forward*, either straight or rounding in its outline, is the forehead the least favorable to mental or manual activity. It is indicative of dullness, slowness, and impracticality, and where it exceeds a certain degree of forward projection or roundness it is certain assurance of idiocy, either partial or complete.

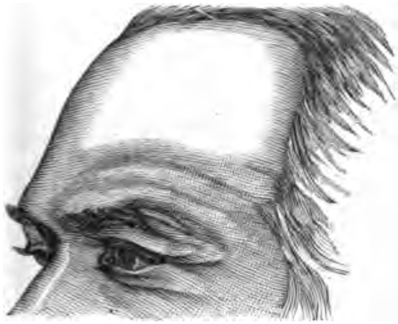

FIG. 288.—PRACTICAL FOREHEAD. (EX-PRESIDENT GARFIELD.)

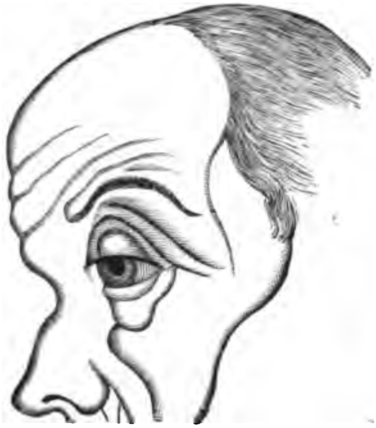

FIG. 289.—PROJECTING FOREHEAD.

THE INFANTILE FOREHEAD.

One modification of this forehead is observed to round out from the junction with the nose, and presents the curve observed in all infants (Fig. 290), and in them it is normal at that stage of development. Now, the law of Nature is, that wherever a feature in an adult bears a strong resemblance to an infantile form, it indicates an infantoid or relative undevelopment of that part of the mind of which such feature stands representative. An infantoid mouth denotes absence of great thoughts and the use of small talk. An infantoid nose indicates lack of executive power; an infantoid chin, relative want of conscientiousness and firmness; and thus of all features.

Those whose foreheads bulge at the superior part are great theorizers, dreamers, impractical, and non-mechanical. If the possessors of such foreheads exhibit a good *quality* (which is seldom met with in conjunction with this appearance), they may be able to create some valuable theories, which, when adapted to practical purpose by common-sense minds, prove useful; but rarely is this the case.

THE MECHANICAL FOREHEAD.

Foreheads fullest at the brows denote the highest capacity for mechanism and practical work; foreheads fullest at the upper part show the greatest power for abstract reasoning, with ability to create and elaborate theories; they possess also great memory of events, etc.,—Humboldt, for example.

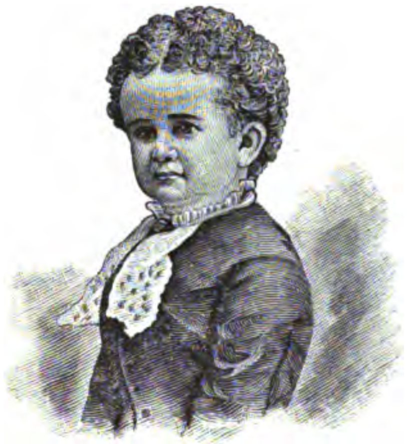

FIG. 290.—INFANTILE FOREHEAD. (MINNIE WARREN.)

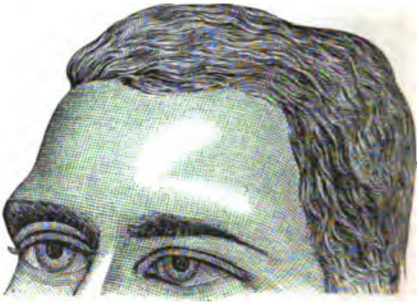

FIG. 291.—MECHANICAL FOREHEAD. (One Type.)

THE ARTISTIC FOREHEAD.

Foreheads rounding at the sides announce capacity for artistic or original construction of some sort, usually of an artistic or æsthetic nature. Those square at the temple show ability for mechanical, scientific, or practical affairs.

THE SCIENTIFIC AND MECHANICAL FOREHEAD.

To a scientific physiognomist the outline of each forehead, both of the profile and of the sides, reveals the accompanying chest form. If the forehead is receding the lungs and liver are well developed, the thorax high and arched, the nostrils relatively large, and the septum of the nose (sign of the liver) usually well developed downward.

Where the profile outline of the forehead is perpendicular, the muscular system will be dominant, or one of the dominant systems, and the heart and stomach, both of them muscular organs, will be more powerfully developed. This outline shows the dominance of the involuntary muscles.

In this case the chest will not be so arched as in the former combination, and the nostrils not so large, but the eye will be larger and the forehead more rounded at the sides, and the jaw more curved outwardly. Thus each feature expounds and reveals the peculiarities of the structure of the trunk, as well as of the limbs, hands, and feet, and these in their turn announce to the close observer the shape of the features and the moral and mental characteristics.

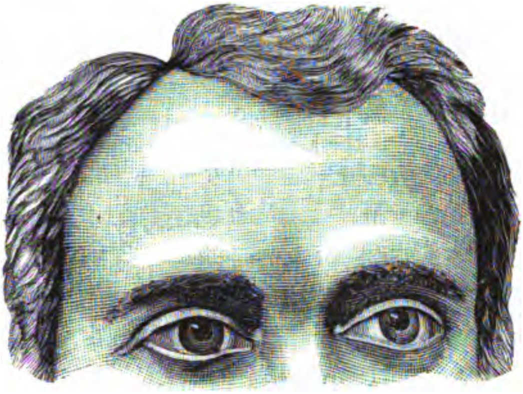

FIG. 292.—ARTISTIC FOREHEAD.

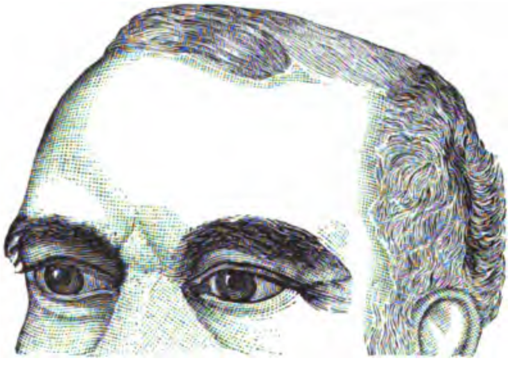

FIG. 293.—SCIENTIFIC FOREHEAD.

Lavater has made some excellent observations upon this feature which I quote as corroborative of my own views. He remarks:—

Foreheads viewed in profile may be reduced to three general classes: They slope backward, or are perpendicular, or are prominent. Each of these classes admits of an infinite subdivision, which is easy to distinguish by species, and of which the following are the principal: 1, straight-lined foreheads; 2, those whose lines half-straight, half-curved, run into each other; 3, foreheads with simple curved lines; 4, those with double or triple curved lines. Let us now establish some particular observations: 1. The more lengthwise the forehead is, the more destitute is the mind of energy and elasticity. 2. The closer, shorter, and more compact it is, the more concentrated, firm, and solid is the character. 3. Contours arched and without angles determine in favor of gentleness and flexibility of character. This, on the contrary, will possess firmness and inflexibility in proportion as the contours of the forehead are *straight*. 4. Complete perpendicularity from the hair to the eyebrows is a sign of a total want of understanding. 5. A perpendicular form, gradually arched on top, announces a mind capable of much reflection, a staid and profound thinker. 6. Prominent (bulging) foreheads belong to feeble and contracted minds, and which will never attain a certain degree of maturity. 7. Sloping backward indicate in general imagination, spirit, and delicacy. 8. In order to constitute a perfect character of wisdom there must be a happy association of straight and curved lines, and besides a favorable *position* of forehead. The association of lines is favorable when they imperceptibly run into each other. 8. I rank among the most *judicious* and the most *positive* characters the *square* foreheads, whose lateral margins are still sufficiently spacious, and whose eye-bone is at the same time very solid.*

Elsewhere he remarks, quoting from Claramantine:—

> A square form of forehead is the sign of superior talents and sound judgment; for it arises from the natural figure of the head. It likewise contributes to the knowledge and prudent conduct of affairs. Many illustrious persons have been distinguished by this form of head.

From Mr. de Permetty Lavater extracts the following:—

> The forehead large, square, and open, announces a person of understanding and good sense; of quick comprehension and capable of advising well, for it is such as it ought to be, having the best proportioned form and the most adapted to facilitate the functions of the soul.

From Gratalones Lavater takes the following:—

> Those who have a great forehead are dull; they may be compared to oxen. Square foreheads of moderate size, well proportioned to the head, show virtuous, wise, and magnanimous character; class them with lions.

There appears in the writings of all the ancient physiognomists a preference for the square form of forehead as illustrative of the highest character. Now, had they ever classified upon the "Basic Principles of Form," and learned the *inherent* meanings of the arch or curve as well as of the square and angle, they would have found the highest expression of the artistic mind revealed by the curve and oval, and the highest type of the scientific and practical by the square and angle, each of which produce two diverse types of *excellent character*, but each unsuited to fill the place of the other in their respective fields of labor.

Circular foreheads belong to the purely vegetative individual, half-curved to the artistic; but all foreheads, unless they are purely square or perfectly round, present interblendings and combinations of these several elements of Form, and must be judged accordingly in each individual case. Many modifying circumstances affect each of these forms. *Quality* is one modifying element; activity of the circulation, or the dominance of the thoracic system, another. Muscular development is yet another circumstance to be taken into consideration before a *perfect* judgment of a given character can be arrived at. My advice is to postpone sentence until the evidence is *all* in; this is sound law, and will apply as well to lawful physiognomy.

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* Lavater's Essays, vol. iii, p. 324. London edition, 1787.

THE HEAD.

I did not intend in this work to give any attention to the cerebral part of the anatomy, although its form, size, and appendages are highly indicative of mentality, and reveal and corroborate the signs of character found in the physiognomy and body. Yet, as phrenology uses the head as the foundation and groundwork for its theories of mind, and endeavors to expound *all* characteristics by inspection and measurement of its outlines, I shall refrain from giving any extended description of the forms and meanings of this noble member. My main reason for this course is that I desire my readers to become perfectly convinced that the face reveals the *entire* mental and physical character without any reference whatever to the form or size of the head.

The entire character may be known also without any reference to the forehead, with the exception of the lower part just above the brows; yet, as the general observation is turned to inspection of the whole frontal development, I have decided to give a limited space to a description of its most general forms, although this is *not essential* to a complete and correct *physiognomical* knowledge of character.

As I stated in the theoretical part of this work, my belief that the mind is not shut up in the skull, but *diffused* throughout the entire body, and manifested only by the co-operation of *all* its parts, and as I showed that the office of the brain is limited to its own peculiar share in mental manifestation, and as the other parts of the organism are concerned in producing what are termed "mental efforts," as in art, science, mechanism, etc., and as I have demonstrated that the face reveals the *entirety* of the personality, it would be a waste of time to make any extended description and analysis of the brain or skull.

In the first place, the brain upon dissection gives no clue by its structure as to its office or purpose in the human economy, as do the visceral organs by their structure and connections.

In the second place, the general form of the exterior of the skull can be ascertained by reference to the general form of the face, the features, or by examination of the fingers even. In this manner the *dominant* powers of the individual are revealed, for a square head shows the presence of moral, scientific, and mechanical ability; the round head, the vital and artistic organism. A *full* knowledge of the encased mind can only be had by observation of the face, the hand, the voice, the walk, the movement and gesture, aided by the light which the laws of scientific physiognomy throws upon them. Observation of the head and knowledge of its size is not *at all essential* to this result. Neither can the *weight* of the brain nor measurement of the skull before or after death give positive and thorough knowledge of the indwelling mind.

Its *form* will greatly facilitate this object, for form and quality are the supreme factors in, and of, all structures. A knowledge of the *meanings* of the forms of the fore part of the brain—the forehead—is very useful in our investigations of character, for this portion of the anatomy belongs to the face as well as to the brain. Comparisons of the form of the head and of its size in relation to the development of the lungs which accompany each individual subject are also of use, not so much in revealing character as for the purpose of disclosing *energy.* Disproportionately large heads, particularly of the fore part, denote slowness, if not dullness, of both the intellectual processes and bodily movements, while a small head allied to large lungs gives the utmost energy of both the mental forces and bodily movements. In the former case the driving power of the mind is absent, viz., large lungs and a copious and constant supply of well-oxygenated blood. A disproportionately large front brain acts slowly because it has not the assistance of a sufficient supply of normal blood to give it vivacity, while a small or undersized brain, if accompanied with large lungs, acts readily, and the limbs follow its promptings with a rapidity of movement in accordance with the *supply of the blood* and the *rate* of its *circulation*, which is much faster, of course, with large lungs and small brain, than where the forebrain is large and the lungs disproportionately small.

The reason why some large heads have exhibited great powers, as in Daniel Webster for example, is because they have been associated with a large thoracic development and a vigorous *visceral* organization and dense color, as well as an excellent muscular and osseous system. In organizations such as his, *many things besides a large brain* are essential to true greatness, for, in addition to all these grand physiological gifts, Webster inherited a fine and high *quality* both of brain and body. When all these circumstances are happily united in one individual, the world is blessed with a transcendent genius which leaves humanity in debt for his gifts, for he endows future ages with a splendid legacy that increases in value as the centuries roll by.

My theories on this subject are strengthened by observations made by the most original investigator in phrenology which

America has produced. I refer to J. S. Grimes. He connects his observations in this direction with a theory which, however original and unique, I do not indorse, for the reason that I have not given it sufficient study to do so. At the same time I say nothing in opposition to it, for to deny what one cannot disprove is unfair, to say the least; and, as I have no repugnance to his theory, and nothing to offer in opposition to it, I give it to my readers for their further investigation.

Mr. Grimes remarks thus:—

> I have lately made an observation which seems to me to be of considerable importance. It is that the largest and most vigorous lungs are generally accompanied with moderately-sized heads; the form of the head in such cases is also peculiar, the upper parts of the head being less developed than the lower, the forehead being generally *retreating.* On the other hand, the very reverse is true of persons whose lungs are small; that is to say, their heads are generally larger and the upper parts more developed than the lower, being in some degree like those which we call rickety. I strongly suspect that this discovery will lead to important results when it comes to be fully explained. I will venture to suggest an explanation: The reason of small lungs being often accompanied with a large head is that the small lungs and imperfect respiration are the cause of the brain growing larger, for the brain is the organ of *motion*, and it can only produce its motions by means of oxygen, which oxygen is furnished through the lungs by combining with the food from the stomach. If the stomach and lungs do not furnish blood sufficiently charged with oxygen to enable the brain to produce the necessary motions, the motions must become less to correspond with the quality of the blood. Under these circumstances larger brain will be equivalent to larger lungs, just as in galvanic operation a weak and adulterated acid, when applied to a large surface of zinc plates, will produce as powerful effects as a more concentrated acid applied to a smaller zinc surface. Now the question is, Does not the brain tend to grow larger and to extend its surface when the blood is *weak*, *adulterated*, and *imperfect* in consequence of indigestion, badly-ventilated rooms, and imperfect respiration? Is not this the cause and explanation of rickets? It is admitted by physicians that rickets originate in indigestion and imperfect respiration, but why should this cause the brain to grow so large? Why do not the hands or feet grow large as well as the brain? I answer that the brain being the phreno-galvanic fountain of motion, and being deprived of concentrated and oxygenated blood, it extends its surface to avail itself of a large quantity of imperfect blood, and thus it is that the same causes which produce imperfect blood produce rickety-shaped heads.*

Mr. Grimes' theory of the brain as an organ of motion is unique, and I here give it as worthy of reflection, at least. He observes:—

> My theory of the temperaments is very simple; it is that the office of the brain and nerves is to move the bones and muscles, and that the brain and nerves are, therefore, antagonistic to the bones and muscles, or, in legal parlance, it is bones and muscles *versus* brain and nerves. The principal

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* Phreno-Geology, J. Stanley Grimes, pp. 68 *et seq.* Boston, 1851.

> bones and muscles, to which I refer, are those especially which constitute the limbs and face. Now, I insist that, *ceteris paribus*, when the brain and nerves are weak and the limbs large, there cannot be as much rapidity of action as when the reverse is the fact; although there may be more strength, it will be manifested *slowly*. But what do we mean by *ceteris paribus*, or all else equal? Why is it that the largest brain, compared with the limbs, is not always accompanied with the most rapid motions? Why is it, indeed, that we sometimes see a large head and slender muscles on one who habitually moves but little, and then reluctantly and moderately? *Why is it that a brain of a given size is not always of a given power?* It ought to be if no interfering causes prevented. Phrenologists generally assume that it is so, but they are constantly met and annoyed by the fact that the same size and form of head on one manifests genius, and on another stupidity; on one it produces rapid and vigorous movements, and on another with bones and muscles no larger—perhaps even smaller—it produces slow, weak, and merely necessary movements; again, we see a small brain with large muscles producing rapid and vigorous motions and an energetic character.

Here Mr. Grimes follows with his galvanic theory and ends this branch of his argument by the following:—

> Here we have a plain and simple explanation of the matter, and the proposition now is, that *the power of the brain depends upon its size and the quality of the blood.* A small brain may, therefore, be more powerful than a large one, if the small one has the advantage in the *quality of the blood.* This is no contradiction of the proposition that the larger the brain and the slenderer the muscles, the greater the relative power of the brain, *all else equal;* on the contrary, it is but an illustration of it.

Mr. Grimes had probably not observed that the *rate* of the circulation had something to do with energetic movements and thoughts. More than *one* factor assists activity of thought and movement; hence, in estimating the power of a given subject, we must take into consideration the *form* of the forehead, the *size* and *form* of the nose and nostrils, *quality of the skin, and the color* of the complexion, hair, and eyes.

Mr. Grimes considers the medulla oblongata to be the seat of the mind, or consciousness, but thinks the brain to be the organ of voluntary motion, and, as this hypothesis has not as yet been successfully controverted, it is as trustworthy as any other. All physicians know that the forebrain in animals has been destroyed without destroying consciousness, and that the forebrain in man has been greatly injured without destroying consciousness; hence it would seem a rational belief that consciousness was located elsewhere than in the forebrain. The office of the several divisions of the brain have not (at the present stage of investigation) been definitely demonstrated. It is not essential to the comprehension of the practical part of physiognomy that this knowledge should be had. It would greatly facilitate our conceptions of mind, however, could we be enlightened as to the office of every distinct and minute portion of the organism. Possibly this may be never known, but it is our duty to make the attempt to learn all that may be known of the human mind and body. Goethe expresses this idea thus:—

> Man is not born to solve the mystery of existence, but he must nevertheless attempt it in order that he may learn how to keep within the limits of the knowable.

There are five general forms of the head corresponding to the five superior systems of functions, viz., the vegetative, the thoracic, the muscular, the osseous, and the brain forms. Each of these forms of head is dominated by the system each individual shape reveals. The vegetative head is globular; like all primitive or infantoid structures, the thoracic head is high and angular and the forehead receding, and all the features prominent and clear-cut. The muscular head is curvilinear; not globular, but more artistically curved; while the brain form is spherical and the face pyriform; the round shape of the latter is different from either the vegetative or the muscular heads.

With this brief mention I shall close the description of the head, believing that the student of physiognomy need not pursue his investigations much farther in this channel for his knowledge of human character.

The Hair.

THE EVOLUTION OF THE HAIR.

In order to fully comprehend the physiognomic signification of the hair of the head, the beard, and the hairy covering found upon the human body, we are obliged to avail ourselves of the light which our sister science—Evolution—throws upon the use and origin of this hirsute appendage. The evolution of man proves that the nervous system and the hairy covering have a common origin, that both are evolved from the outer skin-covering or exoderm of the primitive organisms. This knowledge teaches us why the qualities of the skin, hair, nails, eyelashes, and eyebrows are indicators of mental conditions, for we find that the finer these appendages the more sensitive is the nervous system, and these correlations unfold to us the meaning of the strong relationship existing between these several hairy characters and the nerves or mental powers. In order to give the reader an adequate idea of the common origin of the hair and nerves, I shall draw upon the works of both Darwin and Haeckel for this purpose. For every physiognomic effect there is a precedent physiological or anatomical cause, hence history of the latter sort is essential to an *intelligent* comprehension of the signs of character shown by the hair, beard, brows, and nails. Says Professor Haeckel:—

> The most interesting and important appendages of the outer skin are the hairs, which, on account of their peculiar structure and mode of origin, must be regarded as very characteristic of the whole mammalian class. The hairs of man, as of all other mammals, consist simply of epidermic cells peculiarly differentiated and arranged. In their first state they appear in the embryo as solid, plug-shaped processes of the epidermis which penetrate into the underlying leather-skin (chorion) as do the sebaceous and sweat-glands. As in the latter, the simple plug consists originally of the ordinary epidermic cells. Within this a firmer cellular mass of conical shape soon forms. This increases considerably in length and detaches itself from the surrounding cellular mass, "the root-sheath," and finally makes its way to the outside, appearing above the outer surface as a hair-stem, the deepest part buried in the skin; the hair-follicle is the root of the hair and is surrounded by the root-sheath. In the human embryo the first hairs make their appearance at the end of the fifth or in the beginning of the sixth month.
>
> During the last three or four months before birth the human embryo is usually covered by a thick coating of delicate woolly hairs. This embryonic wool-covering (lanugo) is often lost during the last weeks of embryonic life; at any rate, soon after birth; when it is replaced by the thinner, permanent hair-covering. In the human embryo, the embryonic woolly hair usually covers the entire body with the exception of the palms of the hands and soles of the feet. These parts remain bare, just as in all apes and most other mammals. Not unfrequently the woolly coat of the embryo differs considerably in color from the later permanent hairy covering. Thus, for instance, it sometimes happens in our own Indo-Germanic race, that fair-haired parents are shocked to find their children at their first appearance covered by a dark-brown or even black, woolly covering. It is only after this has been shed that the permanent fair hair, which the child inherits from its parents, makes its appearance. Occasionally, the dark hair is retained for several weeks or even months after birth. This remarkable woolly covering can only be explained as an inheritance from our primordial long-haired ancestors, the apes. It is equally worthy of note that many of the higher apes resemble man in the thin coat of hair which covers certain parts of the body. In most apes, especially in the higher catarhines, the face is nearly or even quite bare, or is covered with hairs as thin and as short as those of man. In these apes, also, just as in man, the hair on the back of the head is usually distinguished by its length, and the males often have much beard and whisker. In both cases this masculine adornment has been acquired by sexual selection. In some apes the breasts and the inner sides of the joints are very thinly covered with hair—far less abundantly than is the back and the outer sides of the joints; on the other hand, we not unfrequently see the shoulders, the back, and the outer sides of the limbs thickly covered with hair in men of Indo-Germanic or Semitic race.
>
> The form of adaptation which has degraded the growth of hair on most parts of the human body while preserving it or even greatly developing it on certain parts was, in all probability, sexual selection. In consequence of the male anthropoid apes, in selecting a partner, preferring those females which were least hairy, and in consequence of the females preferring those suitors which were distinguished by peculiarly fine beard or head-hair, the general hirsuteness of the body was gradually degraded while the beard and the hair of the head advanced to a higher degree of perfection. Cli-

matic conditions and other circumstances unknown to us may, however, also have promoted the loss of the hairy coat.*

The evidence obtained from Darwin on the subject of hair is in direct line with that of Haeckel. He observes:—

> The absence of hair on the body is to a certain extent a secondary sexual character, for in all parts of the world women are less hairy than men; therefore we may reasonably suspect that this is a character which has been gained through sexual selection.
>
> It is rather difficult to form a judgment how the long hair on our heads became developed. Eschricht states that in the human fœtus the hair on the face during the fifth month is longer than that on the head, and this indicates that our semi-human progenitors were not furnished with long tresses, which consequently must have been a late acquisition. Many insects, birds, and animals exhibit beards, manes, and hairy appendages, as, for example, lions, horses, goats, cats, dogs, and many varieties of birds.†

THE QUALITY OR TEXTURE OF THE HAIR.

Inspection and comparison of the several qualities or grades of fineness of hair upon the heads of several individuals or races will demonstrate that there are very great diversities of this ornament. The hair of undeveloped races is coarse as compared to that found among civilized peoples, and among the latter great differences of texture are also to be found. Very coarse hair belongs to coarse, strong, stupid, or dull individuals of a low grade of mentality; often rude, boisterous, and unsympathetic; while the finer qualities show varying degrees of keener mentality, delicacy, refinement, and many diverse grades of physiological power and weakness.

Soft, pliable hair is evidence of tractable, amiable, reasonable disposition; while coarse, stiff, straight hair shows set, rigid, firm, conscientious traits, with more principle than emotion, and in some subjects it is accompanied by obstinacy.

Bears exhibit very thick, coarse, lustreless hair, and are stupid and brutal in the extreme. Other signs corroborate this; the position of the eyes, as well as the contour of the body and head and the slow gait.

The North American Indian exhibits hair very dark or black, very thick, and exceedingly coarse, straight, and strong, and the contrast between his hair and that of the African's curly and woolly hair is as striking as are the differences of the characteristics of these two races. The Indian is more noted for firmness and straightforward action than for sympathy, or at least he was before he became demoralized by contact with men calling themselves

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* Evolution of Man, Ernst Haeckel, chap. xx, vol. ii, p. 205.

† The Descent of Man, Charles Darwin, chap. xx, vol. ii, p. 359 *et seq.*

"Christians." The negro, on the contrary, is a "curly" character, with very little honesty in his composition, not much firmness or heroism; unreliable, but sympathetic, generous, and sociable, with strong natural affection for offspring, great Amativeness, yet unstable in his attachments, being a natural polygamist, as evidenced by the almond-shaped commissure of the eyes, which in his face are very elongated.

If the hair be black or dark-brown and very coarse, it denotes a lower range of moral and intellectual power than coarse, light hair. Very fine, flossy, silken hair, of a light hue, is always associated with refinement, relative delicacy, and extreme sensitiveness of the nervous system. The same quality, if black or brown, denotes more constitutional refinement and more intense feeling and greater mental power.

THE QUANTITY OF THE HAIR.

A thick, long suit of hair is indicative of considerable constitutional vigor, and is one sign of longevity, great reproductive powers, and descent from a long-lived ancestry.

Thin, scattered, fine hair denotes delicacy of constitution, fine and keen perceptions, sensitive and shy nature, and nervous irritability, and is sometimes associated with brilliant mental powers, although other signs must corroborate the latter. No single sign will give the entire character of any individual.

All of those signs of character shown by the hair are to be considered with discretion and judgment; without discrimination all signs fail. The mole and hare have fine, thin, glossy, short coats of hair, and are shy, timid, sensitive, and short-lived, while the luxuriant mane of the lion points to his superior power of mind and body and great length of life.

The various deer tribes also possess fine, short, glossy coats of hair, and are keen and active, and yet many of them are strong, enduring, and long-lived. This combination is one of strength and fineness, quite in contrast with the coarse-haired, stupid, long-lived bear or Russian hog.

The difference in the physiognomical meanings of the hair of the bull-dog are well illustrated by comparison with that of the spaniel or pointer; the difference in their mental and physical powers are as great as are the differences observed in their hair.

THE VARIOUS COLORS OF THE HAIR.

The hair of the head, like all external appendages, is full of physiognomic meaning. Its most conspicuous characteristics are its color, its length, its thickness, its quality, and its lustre. Deep colors, wherever observed, denote power, heat, force, and intensity; hence, the colors of the hair are indicative of character.

The colors most frequently met with in civilized races are black, brown, red, flaxen, golden, gray, and white, and their graduated shades. The several diverse conditions of hair may be classified as straight, lank, wavy, curly, kinky, and frizzly. The character expressed by long, luxuriant, glossy hair is quite different from that which short, thin, and lustreless hair reveals. In youth the hair possesses more lustre than in advanced life; hence, is a sign of a vigorous condition, as well as of youth and beauty. Good care of the hair, as in frequent washing and brushing, will preserve its gloss and youthful appearance, even in old age. The colors of the hair reveal meanings similar to those disclosed by the colors of the eyes and complexion. *Black hair* is usually associated with dark eyes, either black or brown, but in some members of the Celtic races we find it accompanied with blue eyes. Black hair, if coarse, thick, and devoid of lustre, belongs to coarse, animal natures with but slight mental power. If lank, thin, and lustreless, it belongs to those of ordinary intelligence and poorly organized physically. Fine, long, and glossy black hair assures us that its possessors are refined. intelligent persons, with ardent and deep feelings and enduring affections. If thick, with this combination, there is more constitutional vigor than if it be thin; the latter shows more delicacy of constitution, as well as more acute senses. If with this appearance the eyes are black and the skin clear, or if it exhibit a decided red color, the subject will show a very strong color-sense, and will be able to combine colors artistically or chemically, as in dyeing, etc.

Dark-brown hair, if fine and glossy, indicates normal power, both of mind and body, together with refined tastes and excellent color-sense. Blue eyes are oftenest associated with brown hair, either of a deep-violet hue or of a lighter blue.

All of the dark-brown shades of hair (if fine) denote a good degree of intelligence, amiability, good sense, and a certain depth of feeling without acrimony. The *light shades of brown* hair, which are sometimes found in combination with blue or gray eyes, are generally indicative of good intellect, and exhibit mental and physical powers neither very weak nor very strong. If the hair be fine it denotes delicacy of thought and feeling. With a golden tinge it betokens excitability and an exalted mind, which often eventuate in expression by pen, pencil, or brush.

Red hair, if fine and glossy, denotes intensity of feeling, ambition, and refinement. Red hair also shows quick temper, lively and intense emotions, great Agreeability and Amativeness, and a love of outdoor life and active pursuits. The skin of red-haired people is generally very fine and clear. Now, whenever I observe a fine, clear skin, I naturally look for clearness of intellect and moral inclinations.

Coarse red hair is seen only on the heads of those possessing strong animal passions, with but ordinary intelligence.

There are many shades of *flaxen hair* which express a different meaning. Very light or almost white hair is often indicative of a feeble constitution and a scrofulous diathesis, and is never accompanied with intense emotions or capacity for strong attachments. The cause of this is physiological; for in these cases the entire organism lacks strength, both of transmitted quality and acquired vitality. *Albinos* are illustrations of this class, and they are always lacking in vigor and perfection of the senses of sight, hearing, touch, taste, and smell. Their color-sense is of the feeblest grade, while their mental powers are below the average.

Very light haired individuals are often showy, sprightly, and amusing, but I have never met a profound thinker in this class. Of the various shades of light-yellow hair, ranging from molasses-candy color to flaxen, I can only say they are not unlike all the other very light shades of hair in their significations. All these hues are generally found upon the heads of persons more entertaining than philosophic, whose emotions are transitory and manners gay and lively, with inordinate love of dress and amusement, and who exhibit a great fondness for spectacular plays, burlesques, and sensational literature. With a cultivated color-sense they are very ingenious in many kinds of ornamental work. Such persons attract by their vivacity and entertaining manners. Their affections are neither deep nor lasting, but fickle and capricious. That these shades of hair are not indicative of the most developed characters we have only to refer to infants and children of the Caucasian races, whose hair deepens in color as the body and mind strengthen and develop. We must therefore conclude that very light haired adults are relatively infantoid in their natures; that is, they are not as profound reasoners nor as strong and stable in their affections as those with deeper hues of hair.

Golden hair, if fine, gives assurance of a better color-sense than the very light yellow hues, and also denotes more constitutional vigor, for it is usually associated with blue eyes and clear red and white complexion, and this combination produces æsthetic tastes, and, if the quality be fine, artistic talents. The associated character is more imaginative than philosophic, but refined and amiable. Several eminent poets have possessed this combination of colors, and many good artists also.

Gray hair is usually the sign of age, yet many youthful persons or those in the prime of life exhibit hair more or less gray.

In youth this appearance is caused by some variation or perturbation of the nervous system—as in nervous shock—or is transmitted as a family peculiarity. The change of color produced by nervous shock is proof of the mental or nervous origin of the hair, as shown by Haeckel and Darwin in their works on evolution. As the texture of the hair and skin discloses the quality of the nervous system—therefore of the mental power—we must infer a strong relationship between them. The evolution of man proves that the outer skin-covering or exoderm in the primitive organisms assisted in forming the nervous system. This discovery in the history of the lower organisms teaches us how this relationship came about, and proves that the skin, hair, eyelashes and finger- and toe- nails were all evolved from the outer skin-covering. This knowledge affords a clue as to the cause of gray hair. The hair of many persons who have received great and sudden nervous shocks has turned gray or white in a short time, and sometimes in a single night. This is said to have been the case with Queen Marie Antoinette when she was imprisoned. The hair does not generally commence to turn gray until the nervous power has begun to decline.

REMEDY FOR GRAY HAIR.

A very safe and simple remedy for *prematurely* gray hair is found in the following decoction: Take a dozen iron nails and steep them in one quart of black tea and apply daily until the color changes. In most cases it will prove a perfect remedy and restore the hair to its natural color. Individuals of advanced age should never try to restore the hair to its youthful color, as it makes them look *much older* than they really are. Nature in her kindness and wisdom causes the hair to keep pace with the declining freshness of the face, and thus the physiognomy always looks fresher and younger when the dark hair of youth begins to be sprinkled with white. An aged face wrinkled and pallid, or one that has lost the delicate red and white of youth and become fat and coarse, are both softened and refined by gray or white hair. The cosmetic advantage of this color of hair will be apparent to any one who will make the experiment of putting a dark or black wig upon the head of a person from whose complexion the colors and freshness of youth have departed. The greatest secret of the toilet is to make the *face* seem more *youthful* than the surroundings. This cannot be done by bonnets and hats *too juvenile*, nor by the use of youthful-colored hair. On the contrary, just the opposite effect is produced by juvenile head-gear.

Gray hair is not at all gray as its name would seem to denote, but the gray effect is produced by the intermingling of white hairs with the darker original shade of the hair, and the gray appearance is present until all or most of the hair has changed color, when it appears as pure white.

VARIOUS SORTS OF CURLY HAIR.

Besides the straight and stiff and lank varieties of hair, there are several others which convey at sight a knowledge of character. They may be classed as wavy, curly, kinky, frizzly and woolly. None of these varieties are ever found among the civilized races in whom the bony system is supreme, nor upon the heads of those wild races in whom the osseous system is regnant, for the reason that in such subjects lime in some one of its several forms is found in greater quantities in all of the fluids and juices of the body as well as in the fluid of the hair. A large proportion of this chemical constituent creates a firmness or stiffness in the hair of osseous subjects which is not present in the hair of muscular people and races. The law of the muscular being is the curve, as is observed both in animal and human beings, and in order to trace the curve to its origin, and from thence to deduce its most subtle signification, we must look even to the condition of the hair and eyelashes for corroboration of the basic principles of Form. These two appendages will be found upon examination to curve most in muscular subjects. As the curve belongs more particularly to the muscular classes, we shall find that curved or curly hair belongs exclusively to the muscular and vegetative individual.

As the curve is an attribute of muscle, we shall find curly, wavy hair upon the heads of the artistic and imitative classes, and this includes the negro races as well. Curly hair and waving manes are also observed upon the bodies of the muscular animals; the lion, among the Felidiæ, and among the dog tribes the poodle, spaniel, and Maltese varieties are illustrations of the combinations of curly hair with the muscular system predominant. The bony varieties of dogs do not exhibit curly or wavy hair. The hair of the several negro tribes presents the most extreme phases of the curvilinear form, and in these races the muscles dominate the bones, as is proven by their large, convex eyes, frizzly hair, and flexible limbs. The *circular* form here, as elsewhere, denotes superior constitutional vigor. Pure-blooded Africans, as a rule, possess great physical strength; but mulattoes are, as a rule, inferior in strength and constitutional powers to both the black and white races from which they have descended. The hair of the negro is different in its construction from that of the Caucasian, and it is these circumstances, added to the fact that it contains less lime and more animal substance, which gives it the facility for kinking and frizzling. Of this peculiar difference in the structure of the hair of the negro, Carl Vogt tells us that

> The hair of the straight-haired human races is cylindrical; the section under the microscope appears perfectly circular and provided with a medullary canal. Not so the hair of the negro, which is flattened so that its section exhibits an elongated ellipsis in the axis of which no medullary canal is seen. It is this lateral compression which effects the peculiar frizzling of the hair owing to its not taking place exactly in the direction of the longitudinal axis of the hair, but ascending in spirals so that the hair resembles a spiral spring which always returns to its shape when drawn out.*

This extract reveals and corroborates several important principles in my theory of the basic laws of Form, as exhibited by the comparison of the hair of the straight-haired races with that of the curly-haired races. Not only is the structure of the latter inferior in development—in not possessing a medullary tube—but it is also an exhibition of imperfect curvation; that is, a departure from the *true circle*, which is characteristic of the form of the hair of the straight-haired races. In this microscopic analysis of the hair of the negro it is shown that his hair is characterized by an elliptical form, while that of the white-haired races is distinguished by a perfectly circular formation. In this minute circumstance, as well as in the larger details of the human system, the basic laws of Form, as set forth in this system of physiognomy, are fully sustained and carried out. And now for the practical exposition and application of these principles. Curly hair does not show the same high degree of stability, integrity, and moral courage which is associated with straight hair; although many curly-haired people are *strictly honest*. There are many grades of integrity between common honesty and high moral courage—between the determined perseverance and blunt and direct speech of the straight-haired individual and the agreeable, wavering, shifting, unstable methods of the wavy-haired, curly-haired being "who is all things by turn and nothing long."

STRAIGHT HAIR.

The straightest and stiffest hair is found upon the heads of the North American Indians, and in them the osseous system is dominant. Their hair is of the coarsest quality, thus showing that their *mental grade* is not so high as that of the straight-haired Caucasian races; but they possess great perseverance and an unflinching devotion to the principles of truth as laid down in their code of morals. The negro, on the contrary, is a slippery, uncertain, unreliable talker, and seems unable to fully comprehend any system of moral ethics, or to live up to the standard of morality held by the Caucasian and Indian races.

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* Lectures on Man, Carl Vogt, p. 128.

Among the Caucasian races curly hair indicates a changeable character; often brilliant, vivacious, quick-tempered; usually possessed of some form of imitative talent or ability; sometimes sunny, sometimes cloudy, like April weather. Curly hair is usually associated with considerable constitutional vigor (if the color of the skin, hair, and eyes is well defined), the circular form here, as elsewhere, denoting superior strength.

Wavy hair signifies amiability, plausibility, and politic methods. Hair that lies in waves and graceful rings is found upon the heads of gentle, agreeable persons. Many talented people have this peculiarity. It is exhibited by many poets, painters, actors, and others of the muscular artistic classes, those fond of the arts of music, painting, poetry, etc. It denotes tenderness of feeling, with more emotion than reason; hence many poets, musicians, dancers, and singers exhibit this sort of hair.

Men with wavy hair are gentle, refined, and often effeminate in their nature, and resemble their mother in their tastes and feelings.

The hair of Byron, Keats, Mrs. Browning, Thos. Moore, and Burns, poets, exhibits several varieties of wavy and curly hair; while among orators whose hair is waved or curled we find Edmund Burke, Patrick Henry, Mirabeau, and Wm. Wirt.

Many great painters exhibit several varieties of curly hair, among them the following: Vandyck, Michael Angelo, Rubens, Titian, and Poussin. There are also many other painters who exhibit soft, silken waves and ringlets.

The tighter and closer the hair curls, the more pronounced are the physiognomic meanings of the curve. The kinky frizzle of the negro discloses his tricky, "curly," unreliable character; it reveals also his strong affections and amativeness, his love of mirth, music, and ease, while the long, loose ringlets of the Caucasian indicate an easy, yielding, sentimental, emotional nature, with æsthetic taste or talent. The tight, close ringlets reveal high *temper* and changeability of moods. The curl and ringlet are secondary juvenile signs, and are suitable to youthful heads. Nothing, in my estimation, shows more vanity in woman than the wearing of long ringlets in advanced age. Waving hair is becoming to all ages, but long curls on a man's head are the signs of the very acme of vanity. I have shown in the description of Approbativeness that the majority of natural hairy appendages, such as the beard and moustache, are found upon the masculine sex, are secondary signs of vanity, so long curls or ringlets, when observed upon men, are the sure tokens of inordinate vanity and conceit. When a man is not contented with all that Nature and evolution have done for him in the way of natural adornment, and with the assistance she has given him in hiding the defects of lip and chin, and he adopts the curls and ringlets which belong to the opposite sex, it may be set down as the crowning act of a vain mind desiring to centre upon himself the gaze of the multitude. Such men are always one-sided and desirous of public display. I have noticed this peculiarity in peripatetic venders of hair-dye and corn-salve, and in horse-jockeys, astrologers, and fortune-tellers. This showy mode of hair-dressing is adopted by these fellows to bolster up their already overweening self-confidence, and to call attention to their wares and nostrums.

Ringlets on the heads of babes, children, and young ladies are beautiful and appropriate to their age, and denote youth and amiability, and in the latter possibly a spice of coquetry not at all unbecoming to them. All natural external appendages, as, for example, the hair, the beard, the finger-nails, and ears, have been regarded as ornamental members, and hence foster and cultivate the several phases of Approbativeness, ranging all the way from simple satisfaction in a neat arrangement and condition of these several appendages to conceit, vanity, and an offensive and tasteless manner of dressing and displaying their peculiarities of color, quality, quantity, and condition. Civilized races are not one whit behind savage peoples in the fantastic modes of dressing the hair, while dyeing the nails and wearing them long are customs among semi-civilized races.

CAUSE AND CURE FOR BALDNESS.

Baldness is almost altogether confined to the civilized races, and to the males more especially. There are several causes contributing to this phenomenon, the most influential of which is the frequent and short cutting of the hair. All orchardists are aware that if a shrub or tree is "topped" too short and too often it soon becomes permanently dwarfed or dies outright. The reason of this is that the sap does not have a sufficient *length* for circulation or capillary attraction, and hence the decay at the root. Now, the hair has not only a liquid which circulates through tubes its whole extent, but it has also a nervous connection which is injured by cutting it too short and too often. The next most active factor in the production of baldness in men is the too common custom of wearing the hat indoors, as is observed in workshops, offices, stores, and in other places. Men practice these two habits most conducive to baldness, and then are unable to account for such depilatory result. Were it their object to bare the head, no better means than these could be desired. As long as these practices are continued, common sense should teach that it is useless labor to endeavor to make the hair grow by means of nostrums, which only serve to increase the length of the bank-account of their manufacturers, but not the length of the hair of the user.

THE BEARD.

Like all the hairy appendages found upon the human body, the beard and its near relations, the hairs of the head, are strong physiognomical significators. As the beard appears only upon the face of man (with rare exceptions), it stands in physiognomy for a prime sexual characteristic of the male sex. It is pertinent to inquire how this peculiar hairy appendage has come to be the distinguishing sign of the male of the human species, why it sometimes appears upon the female face, and what is its use and physiognomic signification in both the male and the female countenance.

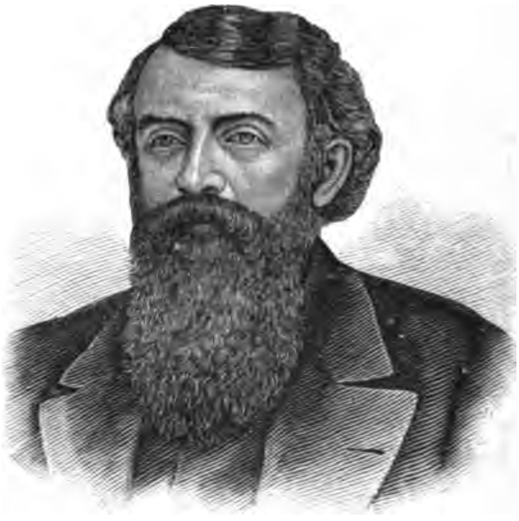

FIG. 294.—VITAL BEARD.
(DWIGHT L. MOODY.)

Fortunately for the science of physiognomy, it has in this age the assistance offered by the investigations and discoveries made by these great giant naturalists, Haeckel, Darwin, Quatrefages, Carl Vogt, and others. From these sources I am able to give my readers some valuable information upon the subject of hair generally, and of the beard in particular. Reference to the "Evolution of the Hair," in the preceding pages, will assist our comprehension of this most important branch of physiognomical knowledge. Comparisons of the hairy development of many of the lower animals with man will prove that in this respect at least man more nearly resembles these classes than does woman; also that certain characteristics which accompany this peculiarity, viz., Will and Amativeness, are more developed in the human male than in the female. The following extract from Darwin will be of interest in this connection, and will throw some light upon the significance of the beard:—

> With respect to the beard, says Darwin, if we turn to our best guide, viz., the Quadrumana, we find beards equally well developed in both sexes of many species, but in others either confined to the males or more developed in them than in the females. From this fact, and from the curious arrangement as well as the bright colors of the hair about the heads of many monkeys, it is highly probable, as before explained, that the males first acquired their beards as an ornament through sexual selection, transmitting them, in most cases, in an equal or nearly equal degree to their offspring of both sexes. We know from Eschritt that with mankind the female as well as the male fœtus is furnished with much hair on the face, especially around the mouth, and this indicates that we are descended from a progenitor of which both sexes were bearded. It appears, therefore, at first sight, probable that man has retained his beard from a very early period, while woman lost her beard at the same time, when her body became almost completely divested of hair. Even the *color* of the beard with mankind seems to have been inherited from an ape-like progenitor; for when there is any difference in tint between the hair of the head and the beard, the latter is lighter colored in all monkeys and in man.

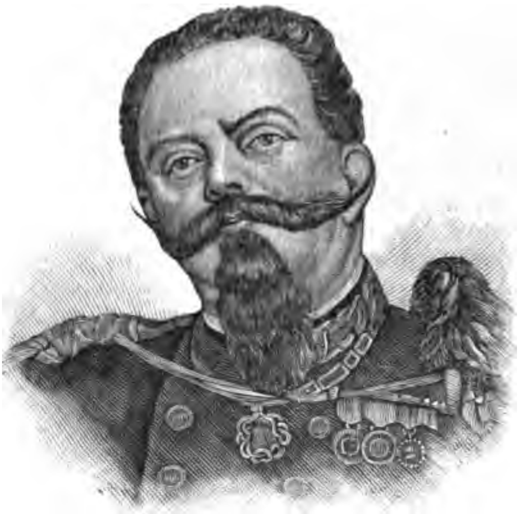
FIG. 295.—VITAL MOUSTACHE.
(VICTOR EMMANUEL.)

The beard, which is found upon the faces of the men of nearly all races, is a feature of great physiognomic significance, and accordingly reveals characteristics which are valuable to the physiognomist. Our first query in regard to this hirsute appendage must be as to its *use;* the next as to its meaning. The physiological uses of the beard upon the chin, cheeks, neck, and upper lip are doubtless for the protection of the lungs primarily. The overhanging moustache upon the upper lip acts as a sieve or filter, in that it prevents the dust, cold air, and other noxious substances from making their way into the lungs by way of the mouth as readily as they would were the upper lip destitute of hairs.

The beard upon the chin and cheeks protects the throat from the inclemency of the weather, and where its growth is long and luxuriant it affords an *outward* defense for the throat and lungs.

Long and full dark-colored beards are signs of vigor and strong constitution, the same as are heavy, dark eyebrows. They are secondary signs of longevity as well. A thick moustache and beard are of great service in certain trades in protecting the lungs from the clouds of dust and particles of various chemicals which are employed in many trades and professions.

Now, it must be apparent that an appendage which serves so many useful purposes, and which is so pronounced a feature of the face (covering up nearly the lower third), and which is almost exclusively a masculine feature, must carry with it very great mental meaning. This meaning is not far to seek if we watch for a few moments only the habitual gestures of those whom Nature has endowed with a fine moustache or a long and luxuriant beard. The self-satisfaction expressed by the habitual and oft-repeated caressing strokes which the owners of long, handsome beards give to this appendage unfolds at once the true inwardness of this feature and gesture. The constant brushing and twisting of a fine, long moustache points in the same direction as does the patting and caressing given to the beard; both these gestures denote Approbativeness; in some men they indicate great vanity. Instinctive or natural gestures are as full of meaning as any concrete form can possibly be, and all caressing movements, whether directed to one's self or given to another, mean precisely the same thing, viz., commendation or satisfaction. We pat children on the head when we wish to show our satisfaction in them or to commend their conduct, and men with a long beard and fine moustache constantly rub, pat, fondle, smooth, and caress their hairy ornaments, and doubtless think themselves the cynosure of all the feminine eyes in their immediate neighborhood, as well as the particularly envied of their own sex.

Darwin has gone into the analysis and meaning of sexual characters in the male, extending through the entire animal species. In this endeavor he shows that the males of all the animal kingdom (with very few exceptions) possess superior external ornamental appendages, which are used for the purpose of charming the opposite sex. In this analysis is clearly proven the position I take upon the subject of external ornamental appendages, and it is this, viz., that they develop a certain degree of vanity or Approbativeness, which I hold is greater in man than in woman generally. (See page 383.) Woman, in order to attract the attention of the opposite sex, endeavors either to improve her bodily form according to the standard of beauty held by the men of her race, or to improve her mind and disposition, or she seeks to fascinate by a masculine expedient, viz., by external ornamentation, by clothing so fashioned as to enhance her charms, and thus to attract the attention of men to her personal appearance. In this attempt on the part of woman to increase her beauty a species of vanity is developed, but, as it proceeds from ornaments which do not *grow* upon the body, the degree of this passion is much less in woman than in man, for his vanity is *radical, is inborn*, and not put on and off with his clothes, but stays "put" for all time. The supreme satisfaction with which a young man with an infant moustache regards both it and his successes with the opposite sex is proof positive of my theory on this subject. It is to be noted that his faith in his attempts at fascination increases in proportion as his moustache thickens.

Of the significance of external ornaments in the male, Darwin remarks thus:—

> Ornaments of all kinds, whether permanently or temporarily gained, are sedulously displayed by the males, and apparently seem to excite or attract or charm the females; but the males will sometimes display their ornaments when not in the presence of females, as occasionally occurs with grouse at their balz places, and, as may be noticed, with the peacock; this latter bird, however, evidently wishes for a spectator of some kind, and will show off his finery, as I have often seen, before poultry, or even pigs. All naturalists who have attended to the habits of birds, whether in a state of nature or under confinement, are unanimously of the opinion that the males delight to display their beauty.*

Let the reader pay attention to a long-bearded man standing before the glass when he is assured that he is not observed, and he will soon become convinced that the highest representative of the male sex does not require the stimulating effect even of a pig's presence to incite him to display and fondle his beard.

A full exposition of the scope and action of the faculty of Approbativeness is to be found in the preceding chapter under the head of "Approbativeness."

Along with every separate and single feature, which is either a source of youth or beauty, Nature has attached a feeling of self-satisfaction in its possession, and, as a beautiful woman exults in her loveliness of face, form, color, or mind, so a man who possesses a fine, luxuriant, richly-colored beard glories in this sign of masculine beauty and vigor. When we come to the external appendages, we enter a field of subtle meanings, and especially is this the case when these appearances are pronounced sexual characteristics. Now, the beard has come to be almost exclusively a masculine feature, yet many females are observed with a slight moustache. and less frequently we observe a tendency to hirsute development upon the chin and cheeks of women of European extraction principally. I think this phenomenon is most frequently met with in the Celtic and Celt-Iberian races. In these subjects it is the sign of great constitutional vigor, and whenever these appendages are very greatly developed an approach to masculine traits of mind may be discovered in a decided development of Will and Amativeness.

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* Descent of Man, Darwin, vol. ii, chap. xiii, p. 82.

In some notable examples a masculine intellect has been associated with this hirsute ornament. Many historical beauties have sported an incipient moustache, which has not at all detracted from their beauty. It is only when the hairy adornment is excessive and the features coarse that a slight moustache detracts from the feminine appearance of woman.

The only way we can account for the presence of the beard in woman is to refer to a common origin which Evolution shows it to have had. It became a secondary masculine character through the law of "Natural Selection," so ably elaborated by Darwin in his "Descent of Man," reference to which the reader will find in the "Evolution of the Hair" which precedes these pages.

The uses of the beard in covering up the exposed parts of man's face are not all physiological. If the beard serves to create undue vanity in man, Nature makes him a *grand compensation* for this weakness. She very kindly enables him to *hide* and *conceal* any weakness or defect in his domestic or moral nature which a weak lower third of the face would disclose were it destitute of hair.

The beard is, in short, a sort of masked battery, behind which a man of weak principles or deficient domesticity may hide, and from this covert gaze understandingly upon the open face of an unsuspecting female and bear her off upon the high sea of matrimony without her being at all aware of his true character; and herein, again, we see the manner in which Dame Nature favors the "brave" though weak male creature. Let us take a little "account of stock," and sum up the number of signs of character that are hidden from the gaze of the world by the moustache. In the first place it conceals the size of the upper lip, thus covering Self-esteem, Modesty, Amativeness, Love of Young, and Mirthfulness. The side-whiskers hide several of the signs of Digestion, Approbativeness, Hospitality, and Friendship; while the beard upon the lower cheeks and chin prevents all knowledge of the amount of development of Firmness, Conscientiousness, Economy, Love of Home, Patriotism, Bibativeness, and Alimentiveness, and one sign of Secretiveness, viz., small size of the mouth.

With all the natural advantages for concealment which man possesses, it is a little far-fetched for him to accuse woman of being "sly" and "vain" because she takes an æsthetic pleasure in fine raiment (which, after all, is intended to please his own sensuous tastes), or because she uses her ingenuity to discover the character of this bewhiskered sphinx.

Now, I submit that it should be the prerogative of every woman to demand and have an examination of the lower third of the face of all male candidates for matrimony before giving the final answer. Nature, in being kind to man in respect to providing him with a beard, has been equally unkind to woman in giving him this perfect contrivance for concealment of that portion of the face which alone reveals the moral and domestic traits, those traits upon the normal development of which all marital happiness depends. Truly, the "ways of Providence are past finding out," but to hear the average man discuss woman's ways and characteristics one would think that this open-faced being was the most inscrutable and impenetrable of all Nature's works.

The physiognomic meanings of the several varieties of the beard are revealed by the application of the general principles of form, color, and texture governing the hair. In almost all cases the beard and moustache is lighter than is the hair. No naturalist has, so far as I am aware, accounted for this discrepancy. It is probable that there are pathological changes which produce these variations of color, but as they are not pertinent to our investigation we will proceed to the discussion of the texture of the beard. This peculiarity is common to some of the ape tribes.

THE TEXTURE OF THE BEARD.

A coarse, straight, and stiff beard is associated with a coarse, stupid, obstinate, or brutal character. If it be a dark-brown color the character is more intense than if it be lighter.

A fine and straight beard betokens more refinement than the former, and more integrity, and if it be dark and luxuriant it shows energy and vigorous physical powers. A *coarse*, red beard denotes strong animal passions, with only ordinary mental capacity, but if it be fine as well as red it indicates ardor, ambition, refinement, and physical vigor.

A *fine* beard of light-yellow or red color shows much less *mental* vigor than those which are darker of the same texture, yet indicates a refined disposition, but not so much physical power as those that are dark and curly. A thin, straggling beard, like thin hair, denotes feeble vital powers.

A fine, thick, glossy, dark-brown, curly beard denotes a strong constitution, and is usually associated with a fine devolopment of the muscular system; this, then, would signify propensity for art in some one of its many forms; other signs would show to which department the mind would turn.

Beards which form long curls belong to the most vigorous men. The ancient Greek sculptors carved upon some of the busts of Zeus, or Jupiter, a long and beautiful ringleted beard, showing that they regarded this style of beard as an evidence of virile power.

Large, round, flat curls also adorned the head of Zeus, of which the poet says:—

"Above his deathless head,
The Ambrosian curls flowed."

Mars, the God of War, is also represented with close-curling locks and beard. Hermes, and the Farnese Herakles, the Laokoön and Aphrodite all exhibit waves, curls, or ringlets, and all of these were in harmony with the excess of muscular power which these several characters reveal in their contours. The ancient Hebrews were noted for their longevity and virility, as well as for long beards; this appendage was held in great reverence by them, so much so that their most sacred and binding oaths were taken upon their beards, which were so long that in many instances they trailed upon the ground. Johan, a German painter, had a beard so long that it trailed upon the ground, and he was obliged to tuck it into his girdle in order to walk freely. The fashion of wearing the beard changes from age to age; sometimes it is worn by a sovereign to conceal a defective lip, chin, or cheek; it is then adopted by his courtiers and followers. At times a tax has been levied upon the beard. Peter the Great imposed one upon the Russians, and once in England a tax was levied upon this appendage.

The portraits of many men celebrated for their great age disclose a fine, long, curly beard, as well as curling hair. Thomas Parr, who died in England in the sixteenth century, aged one hundred and fifty-two years, wore a long and handsome curly moustache and beard, one of the most beautiful that I have ever seen; his hair was wavy and long, descending in rings until it met the beard. The picture painted of him by Rubens shows him as a very handsome man. Henry Jenkins, another Englishman, noted for his longevity (having attained the great age of one hundred and sixty-nine years), had a long, thick, waving beard. In both these men the muscular was one of the dominant systems.

The beard does not present as many variations of color as the hair. We never see a golden beard, nor the various shades of light yellow observed upon the head. Gray beards are common, as well as pure-white beards, and these usually betoken age. A full, flowing, white beard, nicely kept, is a very great addition to the face, and serves to soften the features and give them a more youthful appearance.

The physiognomic lessons learned from an analysis of the beard are most useful, and show how certain facial features have become secondary sexual characters through the operation of the law of natural selection. It also shows the physiological use and the physiognomical significance of this masculine ornamental appendage.

Reversions to original types have been witnessed in the persons of several "bearded women" who have been exhibited in various countries; along with these beards these women have inherited certain masculine traits and masculine vigor. These instances are excellent proofs of Mr. Darwin's theories of "secondary sexual characters," proving also that faculty and function are always associated, and have always a facial representation.

THE EAR.

The ear is the organ of sound, and as such it is rational to infer that its form, size, color, and texture would bear relation to its use, and reveal its individual powers and peculiarities. As it is the only organ devoted to the reception of tone, or sound, we must rely entirely upon it for our knowledge of the aural qualities of the individual.

The ear develops *pari passu* with the *general* refinement of the body, hence the ears come to be indicative of other conditions of mental progress than that of Sound merely; this will be made apparent as we proceed in our analysis and description of this very beautiful and complex organ. The external ear is of a muscular or cartilaginous nature, and the internal ear is mainly of the same soft tissues assisted by nerves, fluid, and a chain of three small bones, yet the softer tissues of muscle and fluid predominate in its construction.

The evolution of the ear is one of the most interesting processes in Nature, whether we follow its course as pursued in its development in the human embryo, or whether we trace its rise and progress from the fish up to man. To attempt either of these methods would take up too much of my space, and I leave this most interesting branch of knowledge and proceed directly to the description of the external ear, together with its physiognomic significations.

The shape, size, and peculiarities of the ear have attracted but little attention from observers generally. While many have remarked the several features of the face, but few have paid attention to the contour of the ears; only when an ear has presented some very marked peculiarity of size or form, or has exhibited a deformity, has it attracted the close scrutiny of people generally; and even then the *meaning* of either the normal or abnormal ear has not been thought of. In short, in modern times the ear has been regarded as a feature of minor importance, hence the masses have manifested but little desire to comprehend its signification. The sciences of evolution and embryology followed its method of development, but have given no clue as to its meaning. Scientific physiognomy now, for the first time, shows its high significance as a revelator of character, and also discloses to which system of functions each of its divisions belongs.

The law of the curve is the law which governs the structure of the ear both without and within. The figure (296) of the internal ear gives the reader an idea of the influence of the curve in the formation of the internal parts of the ear. It also shows the curvilinear structure of the external ear. As the curve is the normal factor of form for the ear, all departures from this form would point to defects in the aural organization. Accordingly, angular or pointed ears would betray lack of aural power in some direction. Now, as all musical and spoken sounds are based upon the curve, it would follow logically that an ear which was angular or pointed in its outline would not receive musical or spoken sounds with the same degree of accuracy as those ears that are normally formed; this we find upon observation to be the case, for those with abnormal forms of the external ear are not so apt in the art of music nor as good linguists as those whose ears are more normal in form. This peculiarity has been noticed by Willis. I have no doubt that a comparison of the inner structure of the ear in those whose outer ear is defective in form would be found as deficient as the outer ear. Of course this could be ascertained only by dissections. As the ear is exclusively for the function of hearing, we must therefore conclude that Nature has provided it with the mechanism necessary to judge of the pitch, intensity, and quality of musical and other sounds. That this is really the case has been proven by the investigations of anatomists, who have localized the several parts of the internal ear engaged in the judgment of the several conditions of sound. Scientific physiognomy teaches the use of the different parts of the external ear in receiving sound, and at the same time interprets the meaning of its several forms, sizes, textures, colors, etc. For much useful information on the subject of spoken and musical sounds the reader is referred to the faculty of "Music" in the preceding chapter.

To the observant physiognomist the ear reveals a world of meaning. If he understand the basic laws of Form, the shape of the ear alone will unfold to him a marvelous amount of knowledge; after he has observed this most striking detail, the size, texture, color, and elaboration of the convolutions will arrest his attention. After these have been scrutinized, the manner in which it is placed upon the head will certainly interest him, and as he reflects that this is the organ for the *reception of sound*, vocal as well as other sounds, he will naturally give great attention to the accompanying mouth, lips, nose, and cheeks, as these are the features which assist in the *production* of both spoken and musical sounds.

The basic laws of Form tell us that curvilinear form denotes the capacity for motion, and as sound is a mode of motion, and as it is transmitted in wave-like forms through the air to the ear,—itself a curved organ, both within and without,—we must hence deduce the fact that the shape of the ear is indicative of the capacity of the individual to receive and judge of sounds. The phrenological idea that the "organ" of tune is exhibited by a *bony* protuberance on the forehead is evidently fallacious, as all parts of the organism engaged in the production and reception of tone or sound are in the *muscular* or *cartilaginous* system; hence a *bony* elevation on the forehead could not reveal musical capacity. This phrenological mistake arose probably from the fact that most musical people possess *round bones* as well as round muscles, hence this part of the forehead in such subjects would naturally exhibit a rounded contour, and, as this was so general in this class of persons, the phrenologists fell into the mistake of *localizing* the *cerebral* sign of "Tune" at this point. Again, the most musical people possess a great share of Constructiveness, and, as this faculty inheres in the muscular system, it naturally curves the lateral portions of the forehead where the "organ" of Constructiveness is said by phrenologists to be situated. Their system demanded that the brain should carry the entire burden of mind, therefore they refrained from seeking for signs of character elsewhere; hence the phrenological "organ" for Tune is said by Fowler to be

> Very difficult to find except in the heads of children, in whom it is generally larger than in adults and easily and accurately observable. Tune

is located in the lateral and lower part of the forehead, over Calculation externally from Time, and three-fourths of an inch above and slightly external to Order, and when large fills out the lower frontal portions of the temples. Still, being located in a kind of a corner where large perceptions crowd it outwardly, large Constructiveness forward, large Ideality and Mirthfulness downward, and the temporal muscle passing over it, its position varies somewhat, which renders observation more difficult except in the heads of children.*

The so-called "organ of Tune," which phrenology declares to be brain-substance elevated so as to form a bump or protuberance upon the outer surface of the forehead, is caused by *rounded* bones and *rounded* muscles, which are characteristic of many great musicians and composers, and, as the foreheads of children are more rounded than later in life, the mistake of saying that this "organ" could be easier discerned in children than in adults was made by Mr. Fowler.

Physiognomy is not confined to so small and uncertain a space for signs of the musical faculty, but points to the form of *every feature* of the face, and shows that broad and rounded ears, with a large and rounded lobe, are the unfailing signs of musical or linguistic capacity, and it also proves that a round head, round body, rounding limbs and fingers, as well as arched eyebrows, round nose, oval chin, and curved jaws, are also signs of the musical mind. With all these signs to assist us in finding the signs of musical taste or talent, the physiognomist is not driven to the necessity of searching for the one little, uncertain-to-find "organ" which is located *sometimes* "three-fourths of an inch above and slightly external to Order."

THE SIGNIFICATIONS OF THE FORMS OF THE EAR.

The form of the ear is much more perfectly rounded in those in whom the muscular and vegetative systems are supreme than in those who are dominated by the osseous system, for the reason that muscle and fat always tend to curvilinear formations; hence, when we observe the very rounded ear we recognize a character in which motion as well as emotion is most decided. The curvilinear form of the ear gives us the assurance of the presence of art capacities of some sort and of domestic tastes, of Amativeness, Love of Young, Mirthfulness, and other primitive traits, and also shows (if it be of fine texture) a sympathetic and magnetic nature.

In those in whom the osseous is the dominant or one of the dominant systems, the ear (if it be rounding) may have great capacity for the *judgment* of musical and other sounds, yet it is never accompanied with a bodily mechanism so well suited to singing or playing music as where the muscles dominate the bones. It never discloses as much *talent* for music as the muscular structure.

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* Human Science, O. S. Fowler, p. 1072.

The ears of osseous individuals are never so round as are those of muscular subjects. They incline to length and relative narrowness.

The ear of each singer and orator is different from that of every other one; moreover, the ears on the two sides of the head are, in most subjects, as diverse in form, size, and elaboration as though they belonged to two entirely different characters.

Anthropologists have formulated a law to the effect that the right side of the body represents the male ancestry and the left side the female ancestral types. If this be a law, then the right ear of musical subjects would indicate that the musical inheritance came from the father or his family, and the left ear would reveal the musical capacities of the mother or her family. My own observations corroborate this proposition. By comparison of the bilateral symmetry of the face and ears students will find a large amount of ancestral and hereditary knowledge of the subjects under observation. Other physiognomists have noted this resemblance of the ears to parental and ancestral types.

In order to comprehend the full significance of the ear we must apply to it the basic laws of Form, just as we do to all other features. This necessitates an analysis of the material of which it is composed, as well as observation of its form, size, color, texture, and position. An organ which presents such elaborate structure without and such complex mechanism within must surely be of great use and carry with it *many* meanings, notwithstanding the opinions to the contrary expressed by several eminent naturalists, viz., that it is a rudimentary and an unnecessary appendage.

The ancient Greek sculptors took great pains in the molding of the ears of their statues; the perfect *individuality* of these ears, as I have observed in copies of their greatest masterpieces, is in harmony with the rest of the body upon which they are placed; and when they modeled the bust of a real character the ears were marvels of elaboration, and quite homogeneous with the head upon which they were carved. Modern sculptors and painters rarely give such precise treatment to the ears of the subjects which they imitate or create.

The ears of the highest types of the Caucasian race, compared to those of the lowest races, present many striking differences. These organs, upon close scrutiny, will be found to present as many differences and peculiarities of structure as the facial features of these several races.

There are very many grades of the size of the ear, running from the small, delicate pink ear, resembling a sea-shell, to the great, coarse, unelaborate, flapping, pig-like ear of the coarse peasant.

Very large ears belong to persons of large frame, and if their bodies are round as well as tall the ear will denote the presence of the musical taste as well as of commercial capacity. Where the subject is tall and square-built and the ear very large, the commercial capacity will lead the musical.

The ears of all the great financiers and successful merchants, railroad magnates, etc., are very large, being both long and broad. When such ears are found upon large men who possess a good quality, they denote a spirit of comprehensive commercialism, a talent for money-making, or if—as in the case of Jay Gould—the body is relatively small, and the organism of fine quality, with a great deal of color, the commercial instinct is powerful. His ears are quite large, as are all of the so-called "Wall-Street magnates." Look, for example, at the ears of W. H. Vanderbilt, Russel Sage, and Sidney Dillon; also at those of Matthew Vassar. In all of these men many other signs of the faculty of Acquisitiveness are present, as, for example, wide jaws, broad head, capacious chest, and large abdomen. The ears are, of course, on the same large scale, thus proving the *harmony* of structure,—a circumstance of much advantage to the physiognomist in discerning signs of character.

Physiognomists who are concerned with the meanings of external features have attended more closely to the use and significance of the ear, among them Professor Willis and Dr. Cross. The latter had very extended views of the use of the external ear to man, both as to its importance as an assistant to accurate and keen audition, and as an indicator of the character and condition of the internal aural mechanism. Says Dr. Cross:—

> This curious structure may, perhaps, become a rich mine of posthumous physiognomy, by which the hidden treasures of the mind may be brought to view, when the ear shall be deaf to its own praise.

This quotation is pregnant with meaning. The ear which is round and thin is more sensitive to sound than one which is round and thick. The ears of most eminent singers and orators disclose a fine texture, showing that the skin is fine and thin; hence, sensitiveness to sound is present. The ears of thorough-bred horses are so finely organized that one may clearly perceive the delicate tracery of the veins through the skin, while the ears of horses of common stock do not present this appearance.

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* **An Attempt to Establish Physiognomy on Scientific Principles, J. Cross, M.D., p. 235.**

THE POSITION OF THE EAR.

The manner in which the ear is placed upon the head varies greatly in individuals. In muscular people the top of the ear is not usually as high above the outer angle of the eye as with bony people; and those with the vegetative system dominant have the ear still lower than the muscular individual.

Again, some ears are flat and placed closely against the side of the head, while others stand out slightly, and others still project far out, as is observed in many musicians, singers, physicians, and mechanicians.

In some musical subjects the larger part of the ear rises above the concha, or bell; in others it is about evenly divided, as, for example, in singers the lobe is long, and this brings the bell of the ear about midway of the entire organ.

The ear, by its position, bears relation to the general structure of the head and body, and the ear always shows individual peculiarities that are in harmony with the structure of the subject, both as regards size, form, texture, and color.

DEFECTIVE POSITIONS.

Ears which set back flat against the sides of the head are not so well adapted to catching sound, either musical or spoken, as those which stand well out and forward. The ears of good musicians and singers set well out and forward. For illustration of this look at the ears of Josef Hoffman, violinist; R. Joseffy, pianist; Theodore Thomas, orchestral conductor; P. S. Gilmore, conductor; Carl Rosa, violinist; Albani and Valleria, singers; also all musicians. Professor Willis has noted this peculiarity.

The ears of all the famous orators stand well out, as do those of the best elocutionists. Nature places the ears in a position to *assist* the vocal powers. Those who fail to catch easily the pronunciation of new or difficult words or sounds have not as great facility and flexibility of the vocal organs as have those who are better endowed in this respect. The ear and voice are nearly always in accord, although it sometimes occurs that one possesses a rich quality of voice with but little ear to guide it; but this discrepancy can be often overcome by training. Some persons have such difficulty in pronouncing long words, or words which they have not been familiar with, that they adopt all sorts of expedients to avoid the use of them. One gentleman told me that after hearing the word "bonanza" pronounced for two years he felt a hesitancy in attempting its pronunciation. There are as great variations and differences in the speaking and singing capacity as there are in the features of individuals. This would arise from differences of structure, both of the vocal organs and of the ear. The physiognomic differences of the mouth, lips, cheeks, ear, and nose, prove this to be the case, for it is to these features we must look for our knowledge of individual powers in the direction of vocality.

Physicians and surgeons require a very delicate ear for sound in order to detect, in the beating of the heart and the movements of the lungs, any abnormal variations in these organs. Linguists must also possess a keen ear for sound, else they will fail to detect the delicate shades of language so essential to perfect pronunciation. Telegraphers, electricians, and other mechanicians require most accurate hearing, and those who have the best hearing are the best adapted to these professions. Many persons hear what is said, but are not strongly impressed with its true import, just as some persons look at objects and fail to grasp all the details of form, size, color, quality, etc. The more perfectly the ear and eye are organized, the more accurate will be their operation.

Parents often fasten back against the head the projecting ears of their children; this is an *unwarranted* interference with Nature's ordinance; this thoughtless act deprives the child of much of its aural power, and such foolish action may lead to such impairment of the sense of hearing as to place the child's life in jeopardy, or unfit him for many trades and professions which require very acute hearing. It would be far more sensible on the part of parents to set the ears of the child *outward and forward* slightly, for this is the method pursued by aged people to assist them in hearing, after their natural hearing has failed.

THE EXTERNAL AND INTERNAL EAR.

The anatomical components of both the internal and external ears are mainly of the softer tissues, although bone enters slightly into the structure of the former. The internal ear is of a most complex structure, and its mechanism very curious and elaborate. Like the outer ear, it is divided into *three* parts, viz., the tube, termed the external auditory meatus, the tympanic membrane, and the labyrinth, or internal ear. Fig. 296 shows the several parts of the *internal* mechanism, also the nature of the several constituent tissues. The amputation of the entire auricle, or ear-shell, would not destroy the power for audition, yet it would materially impair its *keenness*, as any one may prove by simply holding the ear-shell well back against the head while speaking, or while another is speaking, or by endeavoring to catch distant sounds. In the face of this easily-acquired knowledge, I am surprised at the declarations of both Darwin and Haeckel to the effect that "amputation of the external ear would not at all affect the hearing."

I must beg leave to differ with both these eminent men, whose writings have been in the main highly beneficial to me. It only shows that to this circumstance they had not given the attention necessary to prove the truth of their statement. Says Professor Haeckel:—

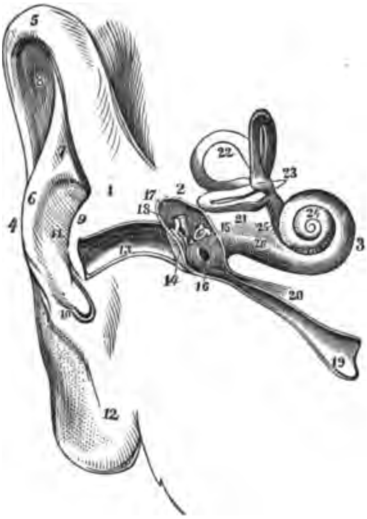

FIG. 296.—EXTERNAL AND INTERNAL EAR.

1. The external ear, including the cartilages and meatus externus.
2. The middle ear, consisting of the middle ear and its appendages.
3. The internal ear, or the labyrinth.
4. The pinna.
5. The helix.
6. The antihelix.
7. The fossa navicularis.
8. The fossa innominata.
9. The tragus.
10. The antitragus.
11. The concha.
12. The lobe.
13. The meatus auditorius externus.
14. The tympanic membrane.
15. The promontory.
16. The foramen rotundum.
17. The posterior wall of the tympanum.
18. The ossicula auditus, four small bones within the cavity of the tympanum, namely, the incus, malleus, or orbiculare, and the stapes.
19. The Eustachian tube.
20. A narrow canal, containing the tensor tympani muscle.
21. The vestibule.
22. The three semicircular canals, viz., the superior, posterior, and horizontal.
23. The ampullæ.
24. The cochlea.
25. The prominence caused by the scala vestibuli.
26. The scala tympani.

> Men with the ears cut off can hear as well as they did before. The conveyance of sound is not affected by the loss of the ear-shell.

This statement can be disproved by holding the ears flat against the head while conversing.

THE THREE DIVISIONS OF THE EAR.

Physiognomically I divide the ear into three parts: (1) the lobule; (2) the concha, or bell; (3) the helix, or rounded top. Each of these divisions represents one of the three primitive systems of the organism, viz., the Vegetative, the Thoracic, and the Muscular. The *lower third* is indicative of, and belongs to, and reveals the development of the *Vegetative system;* the *middle portion*, or bell, to the *Thoracic system;* and the *rounded upper portion* to the *Muscular system.* The convolutions are indicative of general mental development and refinement. The proof of the correctness of the character of these three divisions is found in the correspondence which each of these parts of the ear bears to the related systems of the body. The pendent lobule at the lower extremity of the ear is most developed in those singers who possess the largest amount of the vegetative system, as is observed in the ears of Madame Parepa Rosa, Miss Annie Louise Cary, Albani, Mad. Sainton-Dolby, Mdlle. Aimèè, and Marie Geistinger, while it is much smaller in size in those in whom the vegetative system is less developed. The middle portion of the ear, which includes the concha, or bell, is broadest as well as deepest in those who possess the best thoracic development, while the upper portion is best developed as to roundness and width where the *round* muscles are best defined. The *convolutions* of the ear are more complex, more numerous, and more delicately traced when the character is well developed in directions other than vocal or musical; hence, it follows that an ear well developed in all its departments is indicative of fine character of several sorts. The *depth* of the *concha*, or bell of the ear, is a great assistant in judging of the quality of musical or vocal tones. When this is superficial, the hearing of such tones is not as distinct and the judgment of sounds of all sorts is not as accurate as when it presents great depth and width.

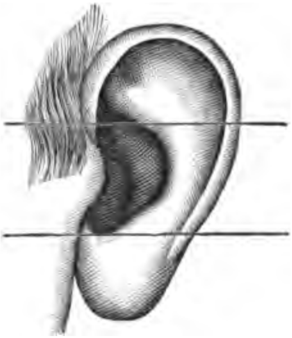
FIG. 297.—THREE DIVISIONS OF THE EAR.

The concha, or bell, should present vertical depth, horizontal width, and perpendicular breadth to have it of the highest efficiency in judging of musical sounds. The ear-bell of Master Solomon (Fig. 304) is one of the best illustrations of musical judgment that I have ever seen. This lad is a phenomenal singer, a composer, and an excellent instrumentalist as well. Nature never created such an ear without associating with it a *suitable vocal apparatus* for the expression of musical sounds. The ears of many great orators and actors exhibit a bell both broad and deep; ook, for example, at the ears of Robert G. Ingersoll, Wendell Phillips, Gambetta, Henry Irving, Theodore Thomas, Edwin Booth, and Mdlle. Modjeska, and they will be found to exhibit a large development of the concha, as well as of other parts of the ear essential to the judgment of vocal sounds. The width and roundness of the upper part of the ear are also great aids in judging of musical sounds, for when this portion is widely expanded and well set out from the head, and well rounded, and the helix well curved inward, forming an unbroken rim, the judgment of musical and spoken sounds is of the best, provided that the quality is fine (Willis). The size and thickness of the lobe seem not to have any special influence upon sound. I regard it as being simply the indicator of the presence of a large degree of the vegetative system, and thus largely developed in accordance with that law of homogeneity which makes *every organ, every part, and every feature indicative in some degree of the whole system.* The external ear is composed of nerves, veins, muscle, cartilage, and adipose tissue, and the lobule, "which is composed mainly of the soft fold of integument, contains only cellular and adipose tissue, possesses but little organization." *

The *anatomical structure* thus shows the lobule to be the indicator of the vegetative system. The presence of a large degree of this system, combined with a fine quality of muscle, in a singer gives softness, mellowness, and a sympathetic magnetism to the tones of the voice, as the musical performances of the before-mentioned singers and actors will testify.

THE COLOR OF THE EAR.

Very great differences of color of the ear are observed. Some ears are bright red, and the blood seems ready to burst through; while others are white and transparent and almost bloodless; others, again, are of a delicate pinkish hue.

All of these several grades of color present distinct meanings. The very red shows an active degree of the aural capacity; the very white and thin indicate that the hearing is not as powerful nor as acute in its quality as the ear that is well filled with blood, for a fine circulation of normal-colored blood in any part denotes activity of that part, while a bloodless condition betokens an enfeebled state. The subject of color, in connection with the ear, must be considered as having the same relation to this feature as to all others—giving strength, tone, and beauty.

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* Practical Anatomy, R. Harrison, M.D., p. 539.

THE FORMS OF THE EAR.

The general forms of the ear disclose not only the aural, musical, and linguistic capacities, but they also point to other characteristics.

The ear may be divided into several classes; of these the musical, the unmusical, the linguistic, the oratorical, the commercial, the refined, the coarse or unrefined, the timid, and the courageous are the principal types. The ears of these several classes are easily known after their peculiarities of structure are once observed.

THE MUSICAL EAR.

This ear has been well described in the preceding chapter, in the section devoted to the faculty of "Music." It has been described by several physiognomists. Lavater gives the least precise description of the ear, although he speaks of the "musical ear," while Willis describes its peculiarities as follows:—

> The rounded, well-formed ear, that sets forward and outward, instead of being flat on the side of the head, is a pretty good sign of musical taste if not of talent. The peculiarity of the musical ear is the thin rim which is hollowed out at the edge like the rim of a saucer.*

The rim of the ear of musicians is a remarkable object; if the student will observe any number of them he will find that all have this "rim" perfect in its outline around the top, and continuing in an unbroken line to the lobe, or very near to it. The rounding form and unbroken rim are not all the factors required in order to constitute a musical ear; there must be *quality* of a high order, the skin must be *thin and fine*, and the *bell deep and broad*, and possess great *vertical depth.* Delicacy of structure is another supreme factor in a musical ear, for a thin muscular ear is more sensitive than a thick one. Says Dr. Cross:—

> The more the external ear is cartilaginous and elastic, the better are the auditory rays conducted to the tympanum and the keener are the sentimental feelings.

It is not at all essential that there should be very great elaboration of the fossa innominata and the fossa navicularis in order to constitute a good musical ear. The elaboration or fluting of this part of the ear denotes a *general* development of the mind, and is not essential to the reception of musical

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* Illustrated Physiognomy, E. A. Willis, p. 27.

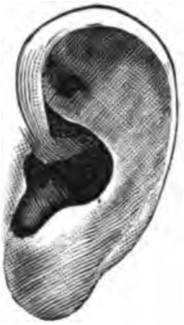

FIG. 298.—PATTI.

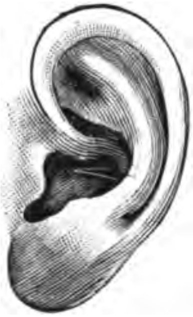

FIG. 299.—GERSTER.

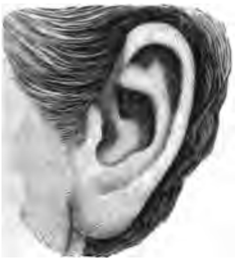

FIG. 300.—LUCCA.

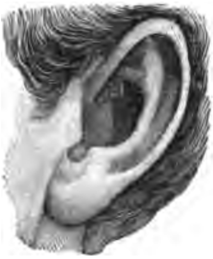

FIG. 301.—SEMBRICK.

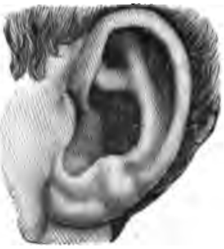

FIG. 302.—CAPOUL.

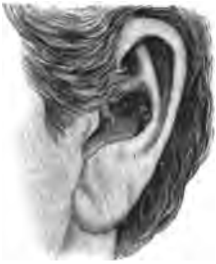

FIG. 303.—ANNIE LOUISE CARY.

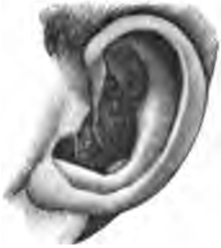

FIG. 304.—MASTER SOLOMON.

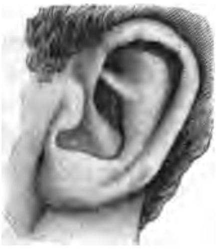

FIG. 305.—PASSMORE.

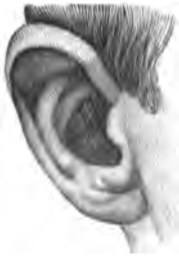

FIG. 306.—MASTER GIBSON.

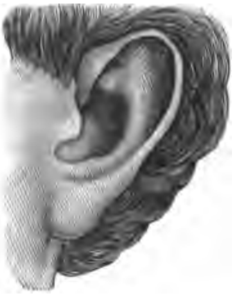

FIG. 307.—CAMPANINI.

SEVERAL FORMS OF MUSICAL EARS.

tone and do not assist it, as is proven by the ear of Patti, which presents a perfectly unelaborate surface of the fossæ (Fig. 298). Patti's ear shows that she is more musical than mental, and this accounts for her phenomenal voice and its long-continued power. no other singer having ever retained her wonderful vocal powers to such advanced age. To sum up the peculiarities of a musical ear we find that rounding form, fine quality, a deep bell, and a perfectly formed rim are its essential concomitants, and to this may be added the fact that the ears of all active singers and musicians exhibit a good pink or red color, thus showing a good distribution of blood to the ear; this gives vigor to this organ and thus assists its aural capacity.

THE UNMUSICAL EAR.

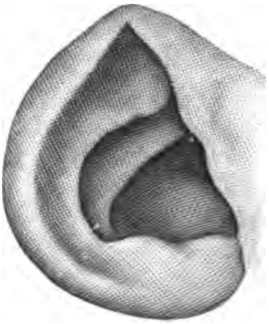

FIG. 308.—UNMUSICAL EAR.

According to Professor Willis this ear is "pointed or angular in its outline," and, as musical sounds are curvilinear in their passage through the air, we can readily see why an angular ear would not be the best adapted to the reception of curvilinear sounds; they would necessarily become broken into *noises* upon striking the jagged points or angles of such an ear. This explains why those with unmusical ears often remark that music is nothing but "noise"; to them it is really a mass of confused, unmelodious sound, for it is logical to infer that the *internal* mechanism of the ear of those who exhibit angular ears is as defective in structure as the *external physiognomical indicator*—the *external* ear. By the same process of reasoning we determine that those animals whose ears are long and pointed do not distinguish nor enjoy musical sounds as well as those whose ears are rounding. Experiments have been made by investigators upon animals in the Zoological Gardens of London in regard to their capacity for discriminating musical sounds. It was found that the zebra and other animals with pointed ears disliked the playing of musical instruments, while the apes and certain of the round-eared carnivora enjoyed the music, which they showed by lying down quietly and listening when it was played, and by becoming uneasy and restless when it ceased.

I have seen several singing mice, and these creatures possess a prettily rounded ear. On several occasions when playing the violin I received a visit from a wee specimen of the mouse family that remained as long as I played and departed when the music ceased.

Some birds have round ear-openings and round throats and heads, and the circular formation of these organs is highly conducive to the giving forth and reception of musical tones; to prove that their judgment of musical sounds is well-nigh perfect one has only to chirp musically to a canary and see how quickly it adjusts its voice to the pitch given, while the mocking-bird imitates the tone, pitch, melody, and intensity of the air rendered by a human voice in its presence. All song-birds possess round and short beaks. See, for example, the linnet, bull-finch, magpie, thrush, sky-lark, and mino bird; and for speech, the raven and parrot. The faculty of Time is well developed in horses and other animals, which can be easily trained to keep time in music by marching and evolutions.

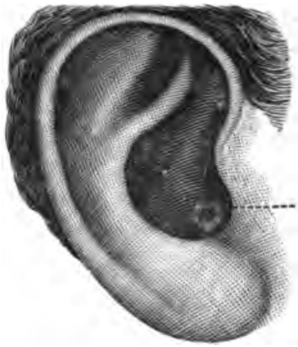

FIG. 309.—ORATORICAL EAR. (GAMBETTA.)

THE ORATORICAL EAR.

The ears of all great orators and speakers are rounding in the outline, and have the bell deep and broad and wide perpendicularly. See the ears of Henry Clay, Edward Everett, Gambetta, and Rev. John Parrish Thompson.

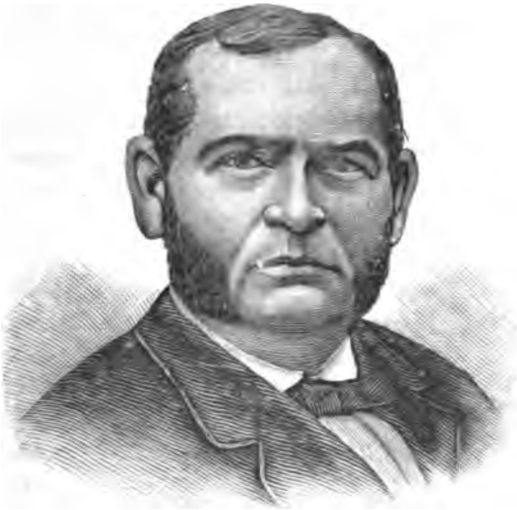

FIG. 310.—COMMERCIAL EAR. (ROSWELL P. FLOWER.)

THE COMMERCIAL EAR.

The ears of this class are long and broad, and in some instances appear elephantine in form and flexibility.

They are the largest of all classes of ears. As a rule they are associated with broad heads, large noses, wide jaws, and broad shoulders. Many commercial ears are found to be musical as well, for the round, musical body is one of the indications of commercial capacity. In these subjects the ear has all the characteristics of the musical ear and possesses large size, thus showing the commercial tendency of its possessor. For specimens of the commercial ear examine the ears of all bankers, financiers, and successful merchants, among whom I may mention W. H. Vanderbilt, Jay Gould, William E. Dodge, Roswell P. Flower, Henry Villard, and Perier, French financier.

GENEROUS VERSUS STINGY EARS.

There is an opinion current that the ear, by its size, denotes the presence either of generosity or parsimony.

It is held that small ears are stingy and large ears are indicative of generous instincts. I regard these two ideas as *equally erroneous.* I have known many small-eared persons to be very sympathetic, and also many long-eared persons to be very generous, and I have seen many persons with both large and small ears to be penurious and pinching. I should not rely upon the form or size of the ear to determine the presence of either of these faculties.

THE COURAGEOUS EAR.

The ear which is large and stands well out from the head, and is possessed of a good red color, denotes physical courage. It is usually associated with good muscular form.

THE TIMID EAR.

The greatest excess of timidity is found with those who have narrow, long, thin, bloodless ears, set closely against the side of the head. This type of ear is associated with delicately-formed individuals with long, thin faces, generally of a nervous or consumptive diathesis. This type of ear is similar in form to the ears of those timid animals, the hare and deer, and reveals some similar characteristics, viz., timidity and delicacy of structure.

THE LINGUISTIC EAR.

The ear of all who excel in verbal language is similar in form, quality, and color to the oratorical and musical ears, for the same powers which enables one to receive and reproduce verbal language are just those which are required to imitate musical tones. Speech is musical to a degree; not as rhythmical as music, but certainly civilized language in its intonations, inflections, pauses, pitch, force, and intensity is a species of music, and those with good musical ears acquire foreign languages with great readiness and use them with facility. See, for example, the ears of all good linguists and public speakers.

THE REFINED EAR.

This type of ear may be large and well-shaped or small and well-shaped. The *texture* is the most important physiognomical factor in the construction of this ear. If the skin be fine and clear and the ear thin, the color white, pink, or red, and exhibiting a number of flutings or convolutions, the character will show delicacy of feeling and refinement of manner.

THE UNREFINED EAR.

The form of this ear may be large and thick or small and thick. The large ear of this class is coarse in texture, of a thick, muddy complexion, broad and flapping in appearance, and destitute of those delicate convolutions which distinguish the ear of refinement. The small ear of this class is conspicuous by the thickness of the shell and the lack of fine elaborate structure; the rim is thick and uneven, and the shell destitute of clear and delicate coloring and vein tracery.

THE ABNORMAL EAR.

There are many malformations of the external ear; also many departures from a normal standard, such as pointed, angular, and chaotic or irregular shapes. It is logical to infer that the internal structure bears some relation to the outer, for I hold that all external forms are indicative of internal structure, and reveal power or weakness. The ear must be understood as bearing relation to the vocal organs and oral formation. I base this idea upon the law of homogeneity.

The ears of congenital idiots are often as malformed as their other features; so also the features of congenital criminals often present departures from the law of *perfect curvation*, and hence are of great physiognomic value, and are corroborative signs of character.

According to statistics there are more congenital defects of the aural apparatus in the male than in the female.

A larger percentage of inherited defects of the organs of sight and speech in the masculine sex is noted than in the female sex in medical works and reports of institutions for the defective classes.

There is probably less change in the form of the ears than in that of any facial feature; hence, the ear as a means of personal identification would be far more decisive than the face, which undergoes many changes within a few years even. The Chinese use, as a means of identification, an imprint of the *thumb*. The ear, being less liable to injury, is better adapted for this purpose than any other single feature or member.

The Human Face.

THE LINES OF THE FACE.

Says Lavater: "There is nothing more indicative of character than lines, unless it be the absence of them." The lines of the face are distinct from the wrinkles in the countenance, from the fact that they are present at birth, or soon after, while wrinkles do not make their appearance until after thought and emotion have left their impress upon the countenance. One of the principal lines, and one which is exhibited in every face, is that which leads from the nostrils downward to the vicinity of the corners of the mouth. This line is highly indicative of character, and reveals by its length, direction, and vertical depth many important characteristics. As mountains by their height create valleys, so the height and fullness of the upper cheek (where are located the signs of Friendship) make this line conspicuous by its depth, for, the fuller this part of the cheek, the more marked will this line appear.

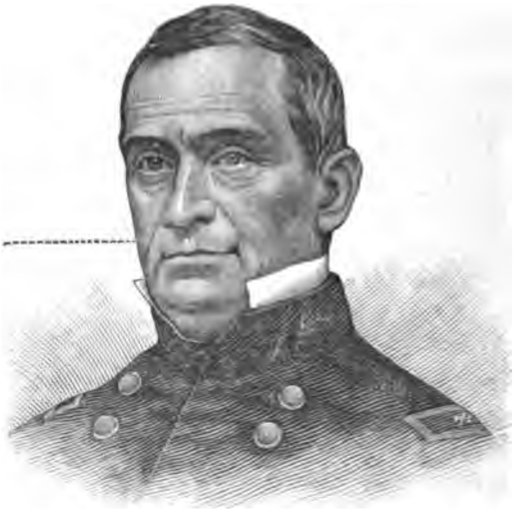

FIG. 311.—NORMAL DIRECTION OF PRIMITIVE LINE. (GENERAL ANDERSON.)

Its depth and width, then, denote Friendship—a secondary or accessory sign; if exceedingly deep it is caused by fat cheeks, hence denotes a great eater; if it assume a certain direction it will add to the beauty of the face by interblending with the wrinkles and dimples, which are the signs of Mirthfulness, and which are situated on the cheek at the corners of the mouth. Lavater lays great stress upon the *direction* of this line, and I am prepared from experience to indorse fully all that he says of this peculiarity of the countenance. Of this he observes:—

> The trait or lineament extending from the sides of the nostrils toward the end of the nose is one of the most significant; on its obliquity, its length, its proximity to or distance from the mouth, depends the evidence of the whole character.
>
> If it is curved without gradation or undulation it is a certain sign of stupidity; it is the same when its extremity joins, without an interval, to the corners of the lips; the same when it is a good distance from the corners of the lips.*

Each of these appearances denotes diversity of character—all of them greatly defective; when the curve is without undulations there is a certain degree of dullness and want of apprehension; when the line joins the corners of the mouth without an interval, a great fund of foolish mirth is present; when the line ends at a great distance from the corners of the mouth, absence of reasoning power and common sense are indicated; when normal this line terminates just outwardly from the signs of Mirthfulness. This is a primitive line, and is situated in the vegetative division of the face. It appears in childhood, and by its vertical depth marks the strength of the faculty of Friendship, the sign for which is situated in the upper cheek; it also indicates by its depth the strength of the intestinal system, as well as the function of digestion.

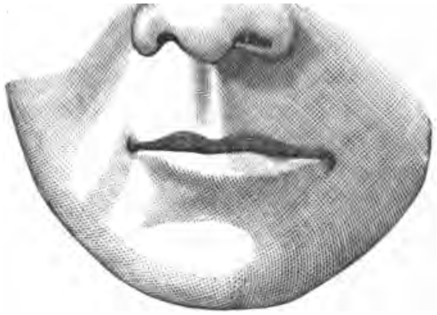

FIG. 312.—PRIMITIVE LINE IN UPPER LIP. (WM. ELLERY CHANNING.)

The next most prominent line of the face is the little line running perpendicularly down the centre of the upper lip, from the septum of the nose to the sign for Amativeness in the centre of the upper lip. This line denotes modesty; the deeper this line is vertically, the stronger does this trait manifest itself; this line is also a primitive feature, and is seen (when present at all) at birth or soon after.

There is a delicately-traced line or depression just opposite this, observed in some subjects in the *lower lip*, dividing it in half; this is a sign of wit, and shows often in early childhood. (See

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* Lavater's Essays, page 474.

Fig. 164.) The lower lip of Prince Gortchakoff, Emile de Girardin, Jules Favre, Dollie Madison, Joseph Jefferson, Voltaire, and Phœbe Cary present varying degrees of this line or depression. These are all congenital lines of the face, and, being primitive, are highly significant of character. Lavater observes; of the lines of the face, that

> Nature forms neither contours nor lines whose progression is not possible, coherent, natural, and homogeneous.*

THE WRINKLES OF THE FACE.

There are few persons born with wrinkles upon the face. When this phenomenon is observed its cause is found usually in some accidental modifications during prenatal life, unless the wrinkles appear upon the forehead and remain; in this case they denote inherited peculiarities of some sort, either of weakness or of strength, depending upon their depth and direction. As a rule, young persons never exhibit wrinkles upon any part of the countenance, unless they are possessed of much capacity for emotion or for reflection. Wrinkles make their appearance first usually at the corners of the eyes outwardly, at the signs for Mirth and Agreeability. It is only later in life, after thought and experience have ripened the mental and social powers, that other wrinkles appear. Writers on art have done much to mislead the public upon the subject of wrinkles, they having always advanced the idea that *all* wrinkles were indicative of old or advanced age, and, therefore, not signs of beauty. Nothing can be farther from the truth, for certain wrinkles reveal many beauties of mind and disposition. I hold that their forms are indications of beauty quite as much as a regular outline of the nose or an oval form of the cheek, while certain others disclose malicious, dishonest, knavish propensities and practices.

It is true it takes *time* to form wrinkles, whether good or bad, but youth, it should be understood, is not the only season of beauty; a scientific knowledge of the face will *enlarge* our conceptions as to what constitutes true beauty, and will not contract our understanding of it to the shortest and most immature portion of life. On the contrary, it will teach us that as experience, learning, and the exercise of the most beautiful traits of character set these signs of their action in the face in the form of wrinkles, these are indications of greater beauty than the smooth and comparatively expressionless cheek of infancy or youth.

The smooth, shining, unwrinkled face of the adult resembles that of an infant, and often is accompanied by relatively infantile characteristics; for thought and feeling will leave their impress upon the visage of every one who possesses these qualities. An unwrinkled adult face is indicative of absence of reflection, intelligence, or feeling. Now, a smooth skin may compensate vain persons for absence of all these fine powers, but it is a very poor substitute later in life for all these qualities which make the character beautiful and the mind intelligent. Without thought or reflection, and when old age comes on, a smooth skin merely is a very poor compensation. When I observe a person past thirty years of age who has not formed some creditable wrinkles, I infer either a very shallow, selfish, unreasoning character, or a very deceptive, hypocritical one. There is an old saying that "gray hairs are honorable;" we might say with more accuracy that wrinkles are honorable, provided they are in the right place and are the shape which denotes goodness or talent.

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* Lavater on Physiognomy, vol. ii, p. 238.

A smooth, shining, round face, without any wrinkles, belongs to a character suave, plausible, flattering, dishonest, and unprincipled; one who is "all things to all men." Such characters make good speculators and politicians, and are well calculated to get a living without working for it.

As a general rule, deep wrinkles indicate a mind that has been immersed in profound study.

Those persons with the thoracic system dominant do not exhibit as many nor as deep wrinkles as those with other formations, for, although they may have good and pure tastes and literary aptitudes, yet they are not as profound scholars as are some, nor are their emotions as lasting; the buoyancy of their spirits prevents long-continued mental labor and long-sustained emotion, hence they retain in age a more youthful manner and a smoother face than those with other symptoms dominant.

Each feature has its own peculiar wrinkles; not only so, but each of the five systems of functions produces characteristic wrinkles.

The dominance of muscle causes one sort, the dominance of fat another, the supremacy of bone yet another variety; while round bones cause wrinkles to assume a form quite different from those produced by square bones; hence it is evident that wrinkles are highly significant of character and wonderful adjuncts to a complete understanding of the human face.

The general laws of Form apply with as much force to the meaning of the forms of wrinkles as to the meaning of the forms of the bones or muscles. Straight and square wrinkles reveal straightforward and honorable qualities, while oblique wrinkles belong to those persons who are the reverse of straight, square, and upright.

Curved wrinkles show emotion, for emotion is the handmaid of art, and emotions are exhibited in the face by movements of the muscles and by the fullness of the softer tissues. If the bones be straight and the action of the muscle normal, the true-curved wrinkle is the result; but if the underlying bones be crooked or uneven and the muscles not normally developed, the wrinkles will be oblique and will testify to oblique, sophistical, or dishonest propensities or mental weakness.

Wrinkles appear about the chin, the cheeks, the lips, the sides, and root of the nose, between the eyebrows, and upon the forehead. Each of these will be explained and figured.

WRINKLES IN THE CHIN.

The wrinkles which form under the chin are curved, and are sometimes observed in infants as well as in adults; they are caused by a deposition of adipose tissue, and show that good digestion has done its work thoroughly. In some adults will be observed two and sometimes three of these wrinkles, and a roll of fat filling out the space between each. Where this peculiarity appears gluttony is usually the cause, or increasing age.

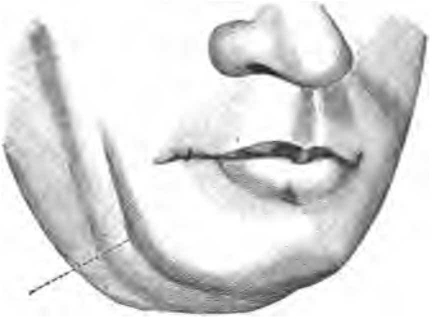
FIG. 313.—TALKER'S WRINKLE.

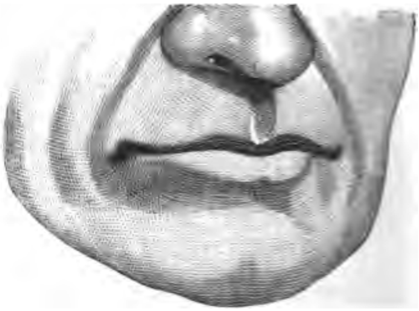
FIG. 314.—APPROBATIVE WRINKLE.

These wrinkles around the chin must not be confounded with the single, long-curved wrinkle which is exhibited by those who talk a good deal, often professionally.

The Talker's Wrinkle.—This wrinkle commences in or near the signs for Approbativeness in the lower cheek, and runs down under the chin from side to side. It is not so much curved as the former; it is observed in the faces of many priests, ministers, lawyers, actors, orators, auctioneers, gossips, and clowns. It is caused by using the muscles of this part of the face so constantly that they form a permanent wrinkle, and are a sure indication of a constant talker, or one who uses the voice professionally in a loud tone; this wrinkle is usually deeper in the countenance of professional talkers than in the faces of those in private life; the reason of this is that the former classes use more *sonorous* tones than the latter. It is more frequently observed in those with the muscular system dominant.

In old age many deep wrinkles form upon the chin, but the aged appearance of the possessor indicates their origin; these are caused by the loss of the elasticity of the skin.

WRINKLES IN THE LOWER CHEEKS.

The Approbative Wrinkle.—There are two sorts of wrinkles that form in the lower cheeks; these are the approbative wrinkles and the mirthful wrinkles; the longer of these two is almost perpendicular, and is caused by the exercise of the faculty of Approbativeness, as in smiling. These wrinkles are often intersected with dimples, either round or cleft, and these are all reliable indices of that suave agreeability which is the distinguishing characteristic of an approbative disposition. These wrinkles form very early in life in those subjects who possess large agreeability, and are situated on the lower cheeks about one and a half inches outward from the mouth; these add greatly to the beauty of the cheek.

Mirthful Wrinkles.—These little tell-tales also form early in life, and are built up from their predecessors, the infantile dimples. The earliest pleasant emotion of the babe is shown by smiling and laughter, and these emotions oft-repeated leave an indelible record upon the cheeks near the corners of the mouth; these wrinkles are also mingled with dimples, according as the subject is fat or lean; they create beauty of expression, especially when in animated conversation and in smiling. It is a very grim, joyless face, indeed, that does not exhibit either mirthful or approbative wrinkles.

Of the indications of foolishness in wrinkles, Lavater says:—

> Whenever in laughter three parallel, circular lines are formed in the cheeks, there is a fund of folly in the character of the person.*

Clowns "make up" their cheeks to resemble this picture, and most of them have the "talker's wrinkle" very deep.

WRINKLES OF THE LOWER LIP.

Miserly Wrinkles.—The lower lip rarely exhibits wrinkles until late in life; these are caused by the natural shrinkage of the skin. If the lower lip discloses many perpendicular wrinkles early in life, it is usually the token of a miserly disposition, or of ill health. In such characters there is deficient glandular development, hence the lower lip—the facial sign for that system—is correspondingly deficient.

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* Lavater's Essays, p. 474.

If the lower lip becomes suddenly wrinkled after having been smooth and full, it has been caused by sickness; but other signs in the face will tell us whether this be the cause.

There are other mirthful wrinkles in the face which will be described elsewhere.

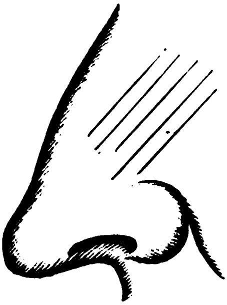

FIG. 315.—MALICIOUS WRINKLES. (After Lavater.)

Wrinkles in the Upper Lip.—Very rarely do we find wrinkles in the upper lip until late in life; some of these (nearly perpendicular) are caused by long-continued efforts in endeavoring to suppress the feelings and to refrain from expressing the thoughts, hence are secondary signs of Secretiveness. These occur in the *white portion* of the upper lip.

Amative Wrinkles.—In some subjects in whom the sign for Amativeness is uncommonly large, several *transverse wrinkles* across the red portion of the upper lip will be observed while in conversation or in laughing; they arise from an excessive development of the facial sign for Amativeness, and this is so large as to produce this horizontal wrinkling of the lip.

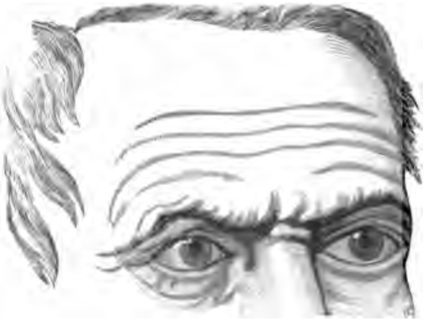

FIG. 316.—EXECUTIVE WRINKLES. (COUNT VON MOLTKE.)

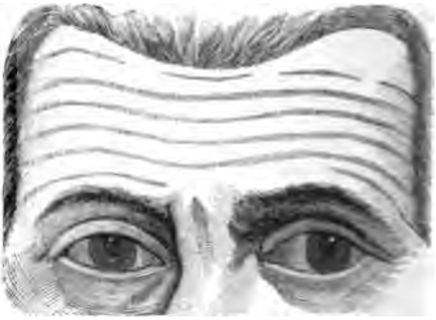

FIG. 317.—CONSCIENTIOUS WRINKLES. (GENERAL JACKSON.)

Wrinkles on the Nose.—Firm, long noses belong to the most reliable moral characters, hence the play of the emotions is not so marked as in muscular characters. Accordingly, we rarely find wrinkles on the sides of the nose in the former; these are found in soft, cartilaginous noses.

Malicious or Knavish Wrinkles.—Where several fine, oblique wrinkles are observed upon the sides of the nose they indicate either a petty nature or a malicious or knavish disposition.

Executive Wrinkles.—The wrinkles lying horizontally across the nose at its root, upon the sign for Self-will, denote ability for command, and show that this faculty has been continuously exercised. They are seen in all great executive characters, such as generals, statesmen, superintendents, teachers, and all those who control and command others. (See Fig. 316.)

Conscientious Wrinkles.—There are several sorts of character indicated by the wrinkles which lie between the eyebrows, just above the root of the nose; these wrinkles are caused primarily by the shape of the underlying bone and muscle; secondly, by the exercise of various faculties. Square-boned persons form *one perpendicular wrinkle* between the eyebrows; this is, therefore, a secondary or accessory sign both of Order and Conscientiousness.

Mirthful Wrinkles.—Signs of the capacity for mirth, fun, wit, and dramatic imitation are found in many localities in the organism where the muscular is one of the supreme systems, hence we shall find two parallel wrinkles between the eyebrows in the faces of many actors, as well as in the countenances of writers for children, and sportive, fun-making characters generally. These wrinkles are caused usually by small, round bones allied to round muscles; they reveal the entire structure as well as the ruling propensities.

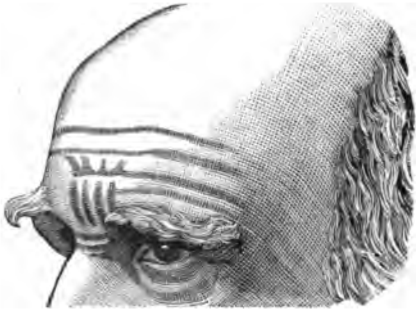

FIG. 318.—PERSEVERING WRINKLES. (WILLIAM CULLEN BRYANT.)

Persevering Wrinkles.—These wrinkles are usually found upon those who possess a good share of bone, along with good muscle, for bone gives steadfastness and muscle a love of motion. Persevering wrinkles are found between the eyebrows, and sometimes form three or four perpendicular lines at this locality. They disclose a plodding, persevering disposition, and those who possess them would seek to polish refined gold and paint the lily white in their efforts to finish up everything which they undertake.

The cat exhibits three deep wrinkles between the eyes, and all know its character for attentive watchfulness when in pursuit of prey. Lavater has noticed this characteristic in the cat, and styles it "watchful and rapacious."

WRINKLES ABOUT THE EYES.

Observing Wrinkles.—Wrinkles about the eyes are found above, below, and at the outer corners; each has a distinct meaning; those which run parallel on the upper eyelid appear late in life, and proceed from habits of industry and *patient observation;* these wrinkles *develop folds of flesh* as well as wrinkles, which in those who are first-class observers *fall over the eyeball at its outer angle.* There are two causes for this appearance: In the first place, the bone is one of the dominant systems; hence the eye-bone projects greatly beyond the eyeball, and this is a sign of an aptitude for protracted observation. Secondly, excessive use of the eye, as in patient observation, develops the skin and muscular tissue about these parts; this appearance is found in various grades in the faces of the following-named observers: Charles Darwin, Dr. Abernethy, Dr. John Draper, John Smeaton, James Watt, Rev. Robert Collyer, and William Cullen Bryant. I am the more particular in giving the names of these well-known characters, for the reason that a certain physiognomist has given this appearance as one sign of a roguish disposition. This shows, I think, want of keen observation, extended generalization, and logical analysis, at least; such formation may have been found in the faces of rogues, but I have observed it in the countenance of scores of the most moral characters and persistent observers.

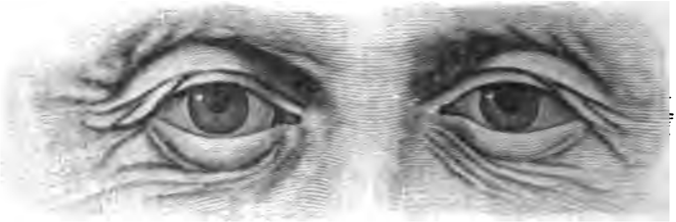

FIG. 319.—MIRTHFUL WRINKLES.

MIRTHFUL WRINKLES AT THE OUTER CORNERS OF THE EYES.

When a number of fine wrinkles are observed extending obliquely outward and downward from the outer angle of the eyes they are indubitable tokens of a mirthful disposition; they show that the subject has been for years very much engaged in laughing. These wrinkles are of great assistance to fortune-tellers, for by them they can tell what the individual has been doing, and they can also foretell what he will do to the end of the chapter, viz., "laugh and make merry."

WRINKLES UNDER THE EYES.

There is a great diversity of meaning in the wrinkles which form *under* the eyes. Those which are fine, and appear in a circular form under the eyes in adults advanced in life, are signs of having used the faculty of Language in public speaking, and this exercise causes the flesh below the eye to bulge out. Deeply-formed wrinkles under the eyes *in youth* are very strongly to be suspected as from dissipation and sensual indulgence.

WRINKLES ON THE FOREHEAD.

From the father of physiognomy, Lavater, we have many excellent observations upon the meaning of wrinkles in the forehead. From his work I extract the following:—

> Oblique wrinkles in the forehead, especially when they are nearly parallel, or appear so, are certainly a sign of a poor, oblique, suspicious mind; parallel, regular, not too deep wrinkles, wrinkles of the forehead, or parallel interrupted are seldom found except in very intelligent, wise, rational, and justly-thinking persons. A forehead the upper part of which is intersected with conspicuous, circularly-arched wrinkles, while the lower half is smooth and wrinkled, is certainly dull, and almost incapable of any instruction. Wrinkles of the forehead which on the slightest motion of the skin sink deeply downward are much to be suspected of weakness; if the lines are stationary, deeply indented, and sink very deeply downward, entertain no doubt of weakness of mind or stupidity, combined with avarice and a lack of sensibility. But let it be remembered at the same time that genius most luxuriant in abilities usually has a line which curves remarkably downward in the middle under three almost horizontal parallel wrinkles. Perplexed, deeply-indented wrinkles of the forehead in opposition to each other are always a certain sign of a harsh, perplexed, and difficult-to-manage character.*

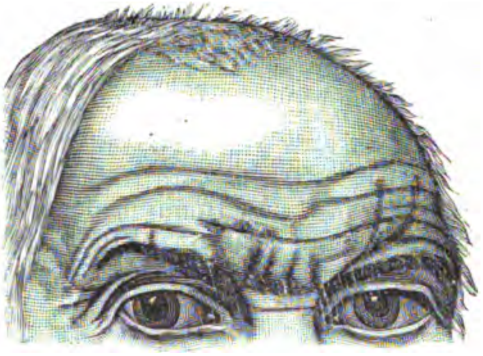

FIG. 820.—TALENTED WRINKLES.

The forms of the wrinkles on the forehead depend upon the form of the underlying bones and muscles. How significant of character, then, must each variety of wrinkle be to the student of physiognomy! A straight and square bone causes the formation of a different-shaped wrinkle from that produced by an unevenly-developed bone. An oblique wrinkle comes from a very differently shaped bone from that which is the product of a square and -

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* Lavater's Essays, p. 465

straight forehead. The wrinkles simply repeat the form of the underlying bone and muscle, and are therefore accessory signs of character.

WRINKLES OF THE NECK.

Deep, circular wrinkles around and under the chin are indications of too much fatty tissue; they belong to slow, easy-going people, not given to much thought, except when the brain is large and of high quality; in this case this combination creates character of great mental vigor, and capable of profound and protracted mental labor; it indicates a combination of the mental with the vegetative system. The portraits of Dumas, the novelist; Gibbon, the historian; Johnson, the philologist; Arkwright, the inventor, and many eminent jurists exhibit this combination.

Wrinkles running obliquely just behind the ear, on the neck, show that age is creeping on. Deep wrinkles at the sides and back of the neck, lying in every direction, are signs of advanced age, or exposure to the fierceness of the elements.

GENERAL WRINKLES.

Numerous and very fine wrinkles all over the face, lying in every direction, indicate a life passed in petty cares and petty savings; also, a querulous disposition. The same kind of wrinkles, when they are deep, reveal the miserly habits of a life-time.

DIMPLES.

THE SIGNIFICATION OF DIMPLES.

How are dimples caused, and what do they mean? They are caused, first, by a collection of adipose tissue; second, by a peculiar formation of certain muscles and bones at the joints and elsewhere. Dimples generally form around joints, as well as on parts where the soft, fat tissue has accumulated; these are found only on fat or plump persons; they indicate ease-loving, mirthful, and affectionate natures. Dimpled babes are always mirthful and happy; the great store of vital material, as shown by the dimples, gives ease and enjoyment. They not only exhibit dimples upon various parts of the body, but also upon the wrists, knuckles, cheeks, and chin.

> "I was going to kiss the dimples from out the little cheeks,
> Where they ripple and they dance every time she laughs or speaks;
> She said I shouldn't do it, but I held her fast and tight,
> And kissed and kissed the very little face with all my might.

And then a pair of eyes twinkled very gravely out,
And a pair of little lips gathered up a doleful pout;
With little drooping corners,—no wonder, you will say,
To see such bonny, bonny dimples stolen away.

I thought I should have kept them for just a little while;
But little teeth were soon peeping through a little smile;
And then a laugh like sunshine was over all her face,
And every dimple I had stolen was back again in place."

DIMPLES IN THE CHIN.

The dimples in the point of the chin are of two general forms,—the round and deep and the straight or cleft; they are very deep in some, less so in other, faces.

The round dimple in the chin is a permanent feature, and does not depend upon the amount of adipose tissue. It is caused by, first, the presence of round bones; second, by a peculiar formation of round muscles. This combination causes the levator menti muscle to dimple; this dimple is never present when the bony system predominates, but only when the muscular system is supreme. This sort of dimple is observed frequently among the literary and artistic classes; the meaning of this dimple is love of the beautiful in the opposite sex. It is found in the chins of poets, writers of fiction, painters, actors, singers, composers, and also in many who have a taste for the works of all these classes.

Among those who exhibit a beautiful dimple in the chin are the following: Lord Byron, Dean Swift, Sheridan, Mozart, Molière, Horace Vernet, Racine, Christine Nillson, Boccaccio, Aimée, Campanini, Saintly, Theodore Thomas, Lavater, Liszt, Schumann, Schubert, Jos. Jefferson, Henry Irving, Mdlle. Croizette, Mdlle. Baretta, Doré, Miss Harriet Hosmer, Robert G. Ingersoll, and Wendell Phillips.

A love of the beautiful in the opposite sex is one factor in creative talent; it assists the sculptor, artist, actor, poet, and composer in forming their ideals, and if this trait did not reside in their organisms on a large scale they could not exhibit the beautiful poems, statues, and melodies which they bring forth.

The dimple in the chin is often one sign of a voluptuous and pleasure-loving person, generally good-natured and inclined to be generous. Louis XV possessed a dimpled chin, and was noted for his love of beautiful women; he was also a great prodigal. Dimples in either cheek or chin are associated with large, full eyes, and these tell us of the shape of other remote features and members of the body, as well as the accompanying traits and talents.

DIMPLES IN THE CHEEKS.

The dimples observed in the cheeks usually occupy two distinct localities. The approbative dimples are situated at the outer sides of the cheeks, and the mirthful dimples are at the corners of the mouth.

Approbative Dimples.—These dimples form part of the sign for Approbativeness, and are accompanied by an agreeable disposition; they are often deep and round; in some they are long and lose themselves in the "approbative wrinkles." The round dimple in the cheek is associated with large, full eyes, and proceeds from the dominance of the muscular system; it is characteristic of many artists, and all who possess it are agreeable, flattering, mirthful, and formed for sociability. It is a great beauty, and many who possess these dimples are not content that they appear while the face is animated, as in talking and smiling, but they very foolishly bite the lips and stretch the mouth in order that the dimples may be apparent at all times. This movement argues great vanity. A coquettish disposition is usually associated with these dimples.

The long, cleft dimple in the cheeks is indicative of Approbativeness and Mirth, not so pronounced as the round one; it also is a mark of beauty, and points to a genial, social disposition. Approbative dimples in the cheek do not show so early in life as do the purely mirthful dimples at the corners of the mouth; the former appear along with the exercise of the faculty of Agreeability, while the mirthful dimple is shown by the exercise of spontaneous mirth on the part of the infant, which is of the nature of instinct.

Mirthful Dimples.—Mirthfulness is a primitive function and faculty, and inheres in the glandular system mainly, although it asks the assistance of the muscles to carry out its interests, as in games, wit, singing, acting, etc. These dimples are situated at the corners of the mouth, and, in some very merry subjects and in many infants, appear in little clusters of two or three cunning little depressions; they add greatly to the variety and beauty of expression of the face, and indicate a fun-loving, mirthful, sportive, or witty disposition. In some these dimples are round, in others they are cleft or lose themselves in mirthful wrinkles at this part of the cheek. Nell Gwynne, an actress and one of the celebrated court beauties of England, exhibited dimples on chin, cheeks, hands, arms, and shoulders; she was an arch, droll, vivacious, and humorous actress. Her dimples added a great charm to her piquant beauty.

"Within a nest of roses,
Half hidden from the sight,
Until a smile discloses
Its loveliness aright.
Behold the work of Cupid,
Who wrought it in a freak,
The witching little dimple,
The dimple on her cheek."

The dimples on the knuckles, wrists, shoulders, and other parts of the body are caused by muscular formation and adipose tissue, and denote good health, good nature, and an amative or affectionate disposition.

The Teeth.

THE PHYSIOGNOMICAL SIGNIFICANCE OF THE TEETH.

Very little attention has been paid to the meanings of the teeth by modern writers on physiognomy, yet they are not only highly significant of mental characteristics, but of physiological peculiarities as well. It must be apparent to the thoughtful that features which are composed of such solid material—which are so important to the human economy, and which are situated in such a prominent position—are of great value as physiognomical indicators. Although these features are not external facial features, they are assuredly strong physiognomical indices of character, and as such are properly a part of this science. The entrances to many of the great internal organs are situated in the human face. The rounded contour or the shrunken appearance of the cheeks and nose announce definitely the form and condition of several of the internal organs, and these are dependent primarily upon the motion or activity of the fluids (as in the circulation of the blood, the juices, and secretions) for their shape.

The teeth guarding the entrance to the digestive tract stand representative of its physiological condition, as well as of the mentality and morality which have been created largely by physiological activities. The resultant forms of the jaw and teeth, then, open up an immense field of physiognomical knowledge.

The form, size, color, texture, and relative position of the teeth present distinct meanings, and one might fill a large volume with descriptions and illustrations of these useful and beautiful features, but as I am limited in space I can present only a few. I have conversed with many skillful dentists upon the physiognomical meanings of the jaws and teeth, and I have not found one who had formed any definite idea of them in relation to character. I predict that many excellent dental observations will be made after a study of this volume.

The teeth are arranged in form after the pattern of the jaw into which they are inserted; hence are the reflex in their collective form of the signification of the jaw, as, for example, a very narrow circle of the jaws gives narrow, crowded, or overlapping teeth. Each of these conditions presents a secondary characteristic sign. A broad circle of the alveolar arch shows that the bony system is on a *broad* scale, and that peculiarity indicates characteristics quite different from the former. In the section devoted to the lower jaw in this chapter will be found descriptions of the most usual forms of these features; taken in connection with this section they will afford a great deal of physiognomical knowledge not to be obtained from any other source.

The "gums," as the alveolar processes are commonly termed, are also highly significant of character; their color, size, form, and relative position are all most positive indices of physical, mental, and moral power or weakness. The teeth and gums, taken in connection with the associated lips, jaws, and mouth, afford a wide field for physiognomical research. They not only reveal the present condition of the subject, but also disclose the alimentive conditions of his ancestors, for the form of an alveolar arch and a set of teeth are not created in one generation, but are the outcome of many generations, and betray their dietetic habits as well as associated moral powers.

The teeth of an adult are thirty-two in number; there are eight front teeth, termed "incisors," or cutting teeth, four in each jaw. The canine teeth come next, two in each jaw. The molars, or grinding teeth, are twenty in number, ten in each jaw. The general idea in regard to teeth is that they are bones; this is erroneous. A close analysis of their constituents, aided by the sciences of evolution and embryology, proves them to be the product of the outer skin, and it is from this primitive base that the alimentary canal also arises.

Says Professor Haeckel:—

> The teeth originate from the outer skin-covering, which covers the jaws; for as the formation of the whole mouth-cavity takes place from the outer germ-layer, the teeth must of course also have developed originally from the skin-layer. This can be actually proved by close microscopic examination of the most delicate structural features of the teeth. The scales of fishes, especially of sharks, are in this respect exactly similar to their teeth. Thus, the human teeth in their earliest origin are modified fish-scales.*

Additional evidence of their origin and structure is derived from anatomy. Dr. Robinson Harrison makes the following statement in regard to their constituents:—

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* The Evolution of Man, Ernst Haeckel, vol. ii, p. 331.

As the teeth are intimately attached to the maxillary bones, and apparently are allied to the osseous more than to any other structure, their general anatomy may now be examined. They are not, however, to be considered as part of the skeleton, as they have not appeared in the very young, and are frequently absent in the very old; neither, critically, do they constitute a part of the osseous system, but rather appertain to the digestive apparatus, being the mechanical instruments employed in the prehension, separation, and mastication of the food, the incisors cutting and dividing t, the canines tearing it, and the molars bruising and grinding it. In zoo-ogical science the teeth serve as an important element in the classification of the animal kingdom; their peculiar form and structure indicate the nature of the food on which the animal is to subsist; and as the digestive organs must be so modified as to convert the numerous varieties into chyle, and as the limbs must be adapted for its prehension, so the teeth must bear an intimate relation to the entire organization as well as to the habits of the animal.*

From the foregoing statements we may take it for granted that the teeth are very important physiognomic significators.

The Form of the Lower Alveolar Arch.—The alveolar process is that part of the jaws into which the teeth are inserted, and in connection with the entire jaw-bone defines the form which the arch or circle of the teeth exhibits in different subjects; in some this circle is very narrow and the teeth crowded and overlapping, revealing an abnormal development of the jaw-bone; in others it is proportionately broad and the teeth even and regular.

The *normal* size of the jaw-bones is such as to allow space for the teeth to enlarge to their proper form, and present a regular row of perfectly-formed teeth. All departures from this condition may be considered as variations from a normal standard. The regularity of the teeth, then, it will be seen, depend primarily upon the form of the jaw-bones, and an exterior inspection of the size of the jaws will often reveal the condition of the teeth. The projection of one row of teeth beyond the other is shown exteriorly by the protrusion of the lips, and when this is very great it produces "prognathism," and, as this condition is normal in animals and in some savages, we must regard all *excessive* prognathism as indicative of inferiority of some part of the mental or moral make-up. A physiognomical analysis will in every subject demonstrate this to be the case. From the foregoing we may deduce the fact that evenly-set, regular teeth denote a more-even disposition and a better-developed mind than where the opposite condition exists.

As before stated, the forms of the circle of the teeth will naturally repeat the form of the jaw-bone; hence, those with an oval lower jaw will present a circuloid arrangement of teeth, while those with a square lower jaw will exhibit a squared or rectangular appearance of the features. Those with a sharp-pointed lower jaw will present teeth rather crowded or overlapping.

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* Harrison's Anatomy, p. 596.

Breadth of the circle argues a broad mind, as compared to those with a very narrow circle; and if this circle be inclined to the rectangular form, that is, when a decided angle is formed at the canine teeth, there exists the inherent principle of the angle, viz., conscientiousness, fidelity, order, perseverance, morality, and if the angle be extremely marked, severity also. Washington's lower jaw is a good illustration of breadth and angularity. This must not be confounded with the contrary angular jaw, which has its angle farther back upon the lower jaw; the angle in the former case is in its normal place.

Narrowness of the circle, when extreme, is accompanied by crowding and irregularity of the teeth. This form is indicative of a narrow mind and weak moral nature, and if the front teeth overlap each other, as in the rodent, it is an infallible sign of an acquisitive or miserly nature.

The *curving* of the teeth, either inward or outward, tell a story. If they curve from the gum inward there is a certain degree of feebleness of digestion, accompanied with rather ordinary mental powers; that is, where the curve is excessive.

The outward curving or projection of the upper teeth, if it be excessive, so that the teeth project forward and fall upon the lower lip, denotes a certain degree of generosity and kindness, which is the compensation for some mental or moral deficiency. So glaring a departure from the normal or highest standard of position argues a corresponding defect somewhere in the mind; a physiognomical reading of the face will reveal it, but as it differs in different subjects its meaning must be sought for in each individual face.

The outward projection of the lower teeth, if *excessive*, is indicative of stupid, brutal, or other undeveloped conditions. (See section on the "Lower Lip," in this chapter.)

Form and Size of the Teeth.—The teeth may be divided generally into broad and narrow and long and short, with the combinations resulting from these qualities. As a rule, teeth which are both broad and short indicate strong vital powers, allied to the carnivora in the taste; that is to say, a taste for flesh diet.

Long and narrow teeth belong to weak people. Consumptives often exhibit this form. These belong to the granivorous,—fruit and grain eaters.

Medium-sized teeth, if regular, even, and normally placed, denote a good constitution and even temper, provided they are white or slightly yellowish-white.

A regular and even set of teeth announce a normal development of the bones of the upper and lower jaws; hence, signify evenness of disposition and a normal construction of the digestive tract.

Irregular teeth, if large, show a commonplace mind, or abnormal condition of mind. Irregularities of the teeth and jaw are most frequently met with in those who have inherited weakly or abnormally developed minds and bodies. The following I quote from a reliable source as strengthening my position upon this point. Tusks, or tushes, are caused by the abnormal development of the canine teeth, and are a reversion to carnivorous types. Wherever found they reveal a modicum of cruelty or malignancy:—

> By examining the mouths of 1977 idiots, there were found to be 159 with protrusion of the superior maxilla and 92 with protrusion of the nferior maxilla. These deformities do not exist to such an extent among ealthy individuals.*

Very white teeth of a pearly whiteness are found associated vith black eyes and hair and a brunette complexion.

Yellowish-white teeth appertain to the blonde and chatain ype. As a general principle, the more the teeth and gums are isplayed in conversation, the less profound the mind.

Children, negroes, and other undeveloped races show a great roportion of the teeth in conversation. The teeth of the upper nd lower jaws of most even-tempered and thoughtful persons eet exactly or nearly so; those whose upper or under teeth proect greatly the one beyond the other are uneven in temper and ot so much developed in intellect as in the passions and emotions.

The only physiognomical observations by a dentist which I ave been able to find on the physiognomical meaning of the teeth e the following:—

> In studying the disposition and general physical make-up of man, in nnection with his teeth with regard to artificial dentures, I find six genal outlines as indicative of certain characteristics theoretically subject only modifications in gestation, education, and culture with heredity.
>
> First, those teeth that naturally curve from the gum-margin in toward e mouth represent the penurious disposition. Second, those that protrude ward the lips and cheeks, the inquisitive disposition. [He might have ded the generous also.] Third, those that are vertical or having a slightly tward slant represent the even tempered. [Very good indeed.] Fourth, se having a horseshoe curve from molar to molar around the grinding l cutting surfaces denote the fleshy and jolly. Fifth, those teeth nearly a straight line from cuspid to cuspid, and thence to last molar having the spids prominent, indicate angularity of disposition and features, and a nder body and face. Sixth, an easy oval, between the round and angu-, indicates full habit and evenly-balanced organization.†

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* American System of Dentistry, Litch, 1887.

† Dental Independent, p. 122, April, 1883, J. M. Hurlt, Peoria.

All this is excellent, and if more dentists were to use their powers of observation and comparison in this direction they could supply a rich fund of dental physiognomy. Emerson, a close observer of facial characteristics, observes: "What power and what limitations the teeth betray!" And Lavater, with his keen observation, says:—

> Whoever leaves his teeth foul, and does not attempt to clean them, certainly betrays much of the negligence of his character, which does him no honor; as are the teeth of man, that is to say, their form, position, and cleanliness (so far as the latter depends upon himself), so is his taste.
>
> Much, indeed, might be written on the meanings of the teeth; to be convinced of this, were we but to observe the teeth of an individual during a single day, or contemplate with reference to this particular an apartment crowded with fools, we should not then for a moment deny that the teeth in conjunction with the lips are very characteristic, or that physiognomy has gained another token, which triumphs over all the arts of dissimulation.*

ANIMAL TYPES OF TEETH.

The beaver and squirrel exhibit teeth which are indicative of the acquisitive and saving faculties; the bear shows destructiveness and malignancy in the form of its teeth, while the tusks of the wild boar and rhinoceros reveal ferocity. The rattlesnake exhibits long, *inward*-curved fangs, denoting both weakness of mind and brutal disposition. Even in the animal world the form and size of the teeth reveal mental, moral, and physiological peculiarities, as comparison of the carnivorous with the granivorous animals will prove.

THE GUMS.

That portion of the alveolar process in which the teeth are encased is commonly termed the "gums;" this part of the mouth is of great importance as a significator of character, for it not only reveals the mental status, but it also discloses congenital physiological conditions of the alimentary tract. These appearances announce not only the inherited alimentary status of the subject, but also disclose the dietetic habits of his ancestors.

In a normal condition of the mouth the gums should not show at all in conversation. When the gums show to a great extent when the mouth is in repose, or while engaged in conversation, it is indicative of either a scrofulous or consumptive tendency; this peculiarity arises from a deteriorated condition of the system, transmitted from ancestors who have for generations been subject to very poor or insufficient diet and deprivation of social and mental advantages, as is well illustrated by the lowest classes of the Irish, for example, among whom good, nourishing food has been wanting for generations, as well as social and educational facilities. This long-continued deprivation has caused physical degeneracy to that extent as to produce a face formed quite different from the normal standards, and nowhere does this degeneracy appear as conspicuous as in the formation of the gums, lips, teeth, and jaw-bones. Emerson, in his "English Traits," remarks thus:—

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* Lavater's Essays, p. 396.

> In Irish districts men deteriorated in size and shape. The nose sunk, the gums were exposed, and brain diminished.*

It does not follow that there has been in all cases great poverty in the ancestors of such scrofulous subjects as expose their gums; on the contrary, many persons who are blessed with plenty of nourishing food habitually make use of the least nourishing diet, either from a depraved taste, or from utter ignorance of sound dietetic principles. The ignorance of many otherwise intelligent mothers on the subject of diet is perfectly amazing. I have observed a mother feeding a young child at evening with a dinner of roast veal, with perfect unconcern, who was quite sure that a dish of blackberries would be very unwholesome for the child. So long as such ignorance prevails in regard to food, we shall find plenty of individuals who expose the ignorance of their parents by their display of gums. Another curious case of dietetic sinning came under my observation; in this instance an entire family subsisted mainly on bread and butter, pie, cake, and tea, rarely eating meat and vegetables; this course had been pursued for several generations, but in this case vanity was the motive which prompted his course. In the first place, they sought to avoid labor and xpense by this method of living, and thus saved money with which to buy fine clothing; another motive involved was the idea hat such food gave them a thin, delicate, and "aristocratic" ppearance, according to their mode of thinking; but this "aristocratic" look is, to the eyes of the physiognomist, a sign of degener-cy—of impoverished minds and bodies.

I have seen many fairly well endowed subjects who, upon pening the mouth, exposed a certain part of the gums, both pper and lower, but I have never yet seen a genius or person of urpassing talent who exhibited this peculiarity. Those who expose great portion of the gums, together with a mouth which never uite closes, are wanting in mental power, and are not possessed great constitutional vigor, for this peculiarity is indicative of hysical degeneracy; that is, a reversion to embryonic types.

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* Emerson's English Traits, p. 299.

I have met this peculiarity among the poorly-developed of all races. It is quite common among all the undeveloped races of the world, and points in all cases primarily to long-continued deprivation of nourishing food.

Those mouths which entirely conceal the gums while in conversation or in singing belong to the better-bred (I use this term in a physiological and scientific sense), and often to the thorough-bred, the signs of which I will give later.

Those mouths that exhibit very little of the gums in conversation do not indicate so great a degree of degeneracy of body and mind as where an inch or more is exposed.

The color of the gums is another significator of character. If they are dark red, they denote an unhealthy condition of the blood. If of a beautiful, clear, pinkish hue, they are indicative of pure blood. If they are very pale, or of a whitish hue, they show an anæmic condition, and this is associated with great impoverishment of the entire system.

THE TONGUE.

The tongue is pre-eminently an organ of motion; as such it is adapted to a great variety of uses, all of which require rapidity of movement and delicacy of sensation. The tongue, although not an external feature, is yet of sufficient physiognomic importance to justify some description of its structure and signification.

It is a muscular member, free on all sides except at its root, which is connected with the os hyoides (a small bone) by muscles and ligaments. It is an organ of touch and taste, as well as of language. In infants it aids suction, and man uses it sometimes in prehension, as do the lower animals.

Its primitive use is for taste, and this function is best developed in the top, sides, and the posterior parts of the upper surface. The central portion possesses less delicacy of taste than the other parts. The following description of the function of the tongue is most complete and instructive:—

> Placed at the entrance of the alimentary apparatus, the great object of the tongue and of its special endowment is the choice of food—to reject what is nauseous and noxious, and select and retain what is grateful and nutritious, and it may be affirmed as a general law (though with some few striking exceptions) "that what is good to the taste will prove nutritive to the system." The tongue also in most animals is an active agent in suction, prehension of food, mastication, insalivation, and deglutition; and in man it is the great instrument for speech. In the animal series it presents great variety in form and structure, which are always in accordance with the functions it is to execute, and with its endowments and limitations. To fulfill its several functions, the tongue must possess a very complex struc-

ure; it is accordingly highly organized; six cerebral nerves are distributed to it; it is freely supplied with blood-vessels. It is covered by a sentient and very sensitive papillary surface, and is essentially composed of muscular and very irritable fibre, which form an intricate interlacement, not unlike the wall of the left ventricle of the heart. This muscular structure can change the form and consistence of the organ with wonderful rapidity; can move it in every direction, so as to bring and retain its sentient papillæ in contact with foreign matter; can strike its point with agility against the lips and teeth, to produce the articulate sounds of speech; can press and bruise the food against the palate, gums, and teeth; can with great dexterity collect the particles together, pick them out of every recess, and compress them into one mass, and then force the whole backward through the fauces.

The tongue is described as of various forms—triangular, oval, irregularly square; from the nature of its structure, however, it cannot present any uniform shape.*

The tongue, as well as the teeth, the lips, and mouth, reveal internal states and conditions of the digestive tract. Its form, size, and flexibility vary greatly in different individuals. It is one of the chief indicators of the pathological condition of the stomach, bowels, and liver, and of the general system; and is relied upon by physicians for knowledge of many abnormal conditions of the body.

As the tongue is one of the principal organs of speech, we naturally infer that its peculiarities of structure would reveal moral and mental conditions. The normal structure shows more capacity for truthfulness than where it is abnormal; the latter shows less integrity than the former, as in tongue-tied subjects, while relatively inferior intellect or weak morality is disclosed by lisping, stuttering, etc. Other peculiar methods of speaking, as though the mouth were full of saliva, for example, point to some defect of the mental organization. Those who lisp betray a relatively childish condition of the intellect, and are to be suspected (if the lisp is very pronounced) of want of strict veracity, or, at least, of childish judgment.

In some subjects the tongue is broad, thick, and short. This form is associated with a wide mouth, and usually with a short, stocky, muscular frame.

A long, narrow, thin, flexible tongue is associated with a tall, thin, sinewy body; often lithe, agile, and graceful.

As the tongue is the chief agent in vocal expression, its normal or abnormal structure would point to mental and moral peculiarities, as well as reveal a sound or unsound physical condition of this member. The mind and body being a unity are so closely interwoven that it is impossible to separate function from faculty; hence, whichever part of the organism reveals abnormal structure reveals at the same time some defect of the mental or moral power, and nowhere is this better proven than in the peculiarities of the organs of speech.

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*Practical Anatomy, R. Harrison, M.D., p. 492.

PHYSIOGNOMY OF SMILES AND LAUGHTER.

Smiles and laughter are parts of one act, the one passive, the other active. Smiling expresses a great deal, yet not so much as laughter, for in smiling the muscles of the lips, cheeks, and eyes only are concerned; in laughing the muscles of the lips, mouth, cheeks, eyelids, as well as those of the diaphragm and the respiratory organs, are involved.

Laughter is not always the expression of simple pleasure and amusement, although that is its primitive motive, as in the innocent, mirthful smiles of the infant.

Laughter may be sarcastic, sardonic, malignant, scornful, demoniacal, maniacal, hypocritical, brutal, coarse, idiotic, silly, sensual, amative, sensuous, loving, joyful, affectionate, approbative, or mirthful. In endeavoring to express such a variety of emotions and sentiments, it is to be supposed that all of the features of the face are brought into use, as well as many of the glands, muscles, and organs of the body; hence, smiles and laughter are most potent indices of character, and to the physiognomist reveal much of the character. The intonations alone of each individual carry with them great knowledge of his mental, moral, and physical status, and this aside from the mere expression of the face. Smiles and laughter are as individualized and characteristic as are the eyes, nose, or mouth; how can it be otherwise when we see that each diversely shaped mouth and cheeks produce movements in accordance with their own peculiar form, and each voice produces audible sounds in harmony with its own peculiar pitch and development of internal organs?

Laughter may be exhibited by a snicker, giggle, or chuckle, by musical tones, or by a rude haw-haw-haw, or by a hearty and spontaneous ha-ha-ha, coming right from the depths of the diaphragm, and expressing honest, frank, good-natured fun and mirth. Each of these methods conveys a distinct meaning. So, too, smiling may be shown by a smirk or simper, or by a scornful, sarcastic look; or it may express approval, or quiet, suppressed mirth, or the passive simplicity and innocence of infancy. Each of these announces different meanings and motives. A man smiles quite differently to a female than to one of his own sex; he moves different muscles for this purpose—some, at least—and puts into his eyes quite a different expression than when he is addressing another man. A woman, too, looks up into the face of a man with quite a different smile from that with which she greets her sister-woman. Says one of Whittier's lovers:—

"You tempt me with your laughing eyes,
Your cheek of sundown's blushes."

The muscles which surround the mouth and eyes, and which promote laughter, are purely human; no animal has a similar muscular development.

The muscle which surrounds the eye—the orbicularis (see figure at the head of this chapter)—is for the purpose of protecting the eyes in laughing, crying, and in the exercise of other functions; hence its development conveys physiognomical meaning. Its uses are well defined by Sir Charles Bell. He observes thus:—

> The orbicularis muscle of the eyelids acts powerfully in certain kinds of expression. In laughing and crying, the outer circle of this muscle, as it contracts, gathers up the skin about the eye, and at the same time it compresses the eyeball. A new interest is given to the subject when we inquire into the subject of that compression; it has a distinct relation to the *circulation of the blood within the eye.* During every violent act of expiration, whether in hearty laughter, weeping, coughing, or sneezing, the eyeball is firmly compressed by the fibres of the orbicularis, and this is a provision for supporting and defending the muscular system of the interior of the eye from a retrograde impulse communicated to the blood in the veins at that time. When we contract the chest and expel the air there is a retardation of the blood in the veins of the neck and head; and in the more powerful acts of expulsion the blood not only distends the vessels, but is even regurgitated into the minute branches. Were the eye not properly compressed at that time irreparable injury might be inflicted on the delicate texture on the interior of the eye. Hence we see a reason for the closed state of the eyelids and wrinkling of the surrounding skin and twinkling of the eye in hearty laughter.*

It is the active and habitual exercise of this muscle which causes the puffy and wrinkled appearance of the sensualist; this appearance tells in language unmistakable that sensuality is one of his dominant vices. It is found in the faces of both young and old, but is most noticeable in the faces of males.

An individual who is observed to have always a smile, simper, or smirk on his face evidences an overweening degree of approbativeness and desire to be approved of others, and this argues a want of independence of character—one who relies more on the opinion of the world than on his own conduct for satisfaction. Such characters are never great and broad, but show small capacity, and, by endeavoring to please every one, divert attention from their real character,—or, rather, want of character,—and so get judgment in their favor. So superficial is the estimate of the world that foam, froth, and nonentity often excite more commendation than the most substantial traits of characters which do not present quite so attractive and startling an exterior.

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* Anatomy of Expression, Sir Charles Bell, p. 89.

A loud, boisterous laugh belongs to a rude, unrefined person. A clear, mellow, ringing laugh, not too loud, announces a clear-minded, harmonious character. The chuckling or suppressed laugh tells us that we have a secretive nature to deal with. Laughter which is spontaneous and full of merry tones, "like the jingling of sweet bells," discloses a frank, merry person, not yet spoiled by the world and the greed of mammon. A rude, short, loud "horse-laugh" tells us of a most disgusting, rude, unfeeling brute. The hollow, affected laugh discloses an empty skull and a hollow heart; its exhibitor will do neither good nor harm to any one. A sharp, shrill laugh is evidence of a thin physique and an excitable temper, with an unbalanced and commonplace mind.

The laugh, like the tone of the voice used in speaking, is an unmistakable signification of sexual conditions and powers, as well as the exponent of other functional states. This fact assists still further in the proof before stated in this chapter, viz., that "all those parts of the organism which depend upon the same organ system for their power exhibit unity of action and similar results." The proof of the above-stated principles are, perhaps, better understood by the majority of the people than many other physiological laws, because all persons have observed what is called the "change of voice," which is very marked in boys approaching the age of puberty. A change also takes place at this time in the voice of females, but is not so perceptible. This change of voice is correlated with a marked change and development in the reproductive system. Now, all the organs involved in reproduction are mainly muscular and fibroid, as are also the organs involved in the use of the voice.

Those persons who are the most gifted in vocal expression, in song and oratory, such as our first-class opera-singers, prima donnas, tenors, and basses, and the great orators and elocutionists of the world, must possess sound and powerful reproductive systems. I believe that the record of their lives will bear me out in this statement, as well as the principle that creative art derives assistance from the procreative function. It is shown, in the "Evolution of Man," by Haeckel, and others, that intelligence in the animal species did not progress greatly until after a marked development of the reproductive system took place; and that from that time on until man was evolved the intelligence of the animal kingdom progressed in the ratio that the reproductive system developed. We cannot separate the mind from the body, nor mental faculties from physical functions; they are bound together by the God of Nature, and what God has joined together *no man* can put asunder.

There is another physiological fact known generally, and that is, that as the sexual powers decline the voice also loses its vigor and richness.

From these observations I think we are justified in considerng the voice one indication of sexual conditions and powers, and the laugh, by its tones, enlightens us on this point just as well as does the voice in speaking and singing. Still another proof of the connection between the remote parts of the muscular and fibroid system is had in the voices of eunuchs, and in the soprano voices of the male singers in the Pope's choir. Emasculation in both cases has produced great and radical changes in the voices of these two classes of males. Any unprejudiced person can trace out hese connections and correlations in the human organism—these which are so apparent to the senses. Most of the laws and principles laid down in this system of physiognomy are so susceptible o demonstration to the senses alone, that one is hardly called upon, as Tyndall remarks:—

> To picture with the eyes of the mind those operations which entirely hide the eyes of the body.

Observation and reflection, added to a love of truth and a andid mind, are all that are needed for this study.

THE NECK.

The physiognomical language of the neck is one very great id toward the comprehension of character. The neck of each uman being, and of each animal and species, is a revelation of he entire organism. As each leaf, twig, and branch are indices f the tree upon which they grow, and the leaf in many instances epeats the form or outline of the tree, so the neck of man or beast highly significant both of the head and body which it connects; ot only is it an expounder of the physical structure of man, but most conspicuously reveals his mental and moral conditions and ualities.

The neck is a member of motion, and is used in nearly every ct of the individual; it is capable of great diversity as well as reat rapidity of movement.

The physiognomical importance of the neck must be apparent hen we come to consider its *position* and its *office*. It connects e head with the trunk, and within its area it holds the organs of e *voice;* it assists in conveying air to and from the lungs, and the food from the mouth to the stomach; it is also the membe that incloses the muscles of veins, arteries, and nerves which furnish the brain with power to act. These air-passages and a food-tube, which are situated in the neck, connect directly with the two principal facial features, viz., the mouth and nose; hence, the neck must, by its size, form, and length, stand in direct relation, not only to the alimentary and respiratory powers, but it must also be characteristic of the face and entire body and mind.

The nearer the organs of alimentation and respiration are to the brain, the more rapidly is that organ supplied with nourishing blood. And as the thick, short neck is associated with a relatively *broad body*, this combination would produce a large supply of blood; now, a large quantity of blood moving rapidly to the brain would give the greatest power for the mental process, and if, with such formation, there be a brain of *high quality*, we shall find the most sagacious and profound minds. Napoleon I is an excellent example of this construction; his body was barrel-shaped, his brain was large, of high quality, and his neck was so short that his head seemed resting on his shoulders; his legs were short, and this gave him the appearance of being short, and gained for him from his soldiers the title of the "little Corporal."

The elephant among animals is the most able reasoner; its head sits Napoleon-like on its shoulders; it is so sagacious that it has no need of either long legs or long neck to protect itself.

The length of the neck is a most significant indicator of character. Long, thin necks are associated with narrow, sloping shoulders, and usually with a flat chest and angular, high head. The character of such form is either timidity, or sensitiveness, or both. The greyhound, deer, and giraffe among animals illustrate these qualities. Now, timidity is not the accompaniment of great mental power; Nature, therefore, endeavors to compensate her long-necked children by either excessive caution, which makes them watchful and alert, or she gives them length and leanness to make them fleet in their movements. To some she gives *sensitiveness*, which is a great protection, as it enables them to see, hear, feel, and intuitively perceive dangers which might overpower them were their senses dull; in their case, sensitiveness of the senses is a great compensation for deep and profound thought or slow movements.

The following analysis, by Dr. Cross, of the significance of the long neck is most admirable, and in this connection quite apt. He remarks thus:—

> The length of the neck is principally subservient to the ears, the sentinels appointed to watch over personal safety. Accordingly, those animals

which are exposed to danger from their stronger neighbors have elevated ears and long necks, and all animals, when under apprehension of danger, stretch the neck for the purpose of elevating the ears. The strength of the neck, on the other hand, is devoted to the service of the mouth as a grasper. The prompt, predaceous eye can dispense with elevation for the sake of strength; accordingly, strong, courageous animals are endowed with short, thick necks, and in making an onset actually contract the neck so that they may be able to impel their teeth against the prey. In the endowment of weak, timid animals with long, mobile necks, and of strong, courageous animals with short, thick necks, may be seen a slight specimen of divine wisdom and beneficence. Where strength is largely bestowed rapidity of movement and of discernment is withheld, and where strength is withheld compensation is almost made by rapidity of movement and of discernment, whereby that danger which cannot be withstood may be for a time eluded. Accordingly, the short neck is generally the muscular neck, as the rough and well-marked processes and ridges at the base of the skull testify, and is also generally accompanied by the large head and the energetic intellect.*

Many of the most profound scholars, able generals and comnanders, astute statesmen, and far-sighted merchants exhibit the hort, thick, muscular neck.

The principal traits revealed by the size, form, color, texture, notion, and position of the neck are as follow:—

Will,
Amativeness,
Sensuality,
Self-esteem,
Attention,
Sagacity,
Timidity,
Gracefulness,
Coquetry,
Hypocrisy,
Avarice,
Veneration,
Youth,
Old age.

THE WILLFUL NECK.

The willful neck is short and thick, and is indicative of a rge endowment of the muscular system, hence is associated with road shoulders, deep chest, large abdomen, and round head; this uild gives large force and resistance. With a good quality of *ain* in combination we have the intellect of a Napoleon, a Luer, a Bismarck, or a Cleveland. Those with this form of neck rtake somewhat of the nature of the bull and the bull-dog, and e capable of great resistance and aggression as well; they are e kind of men that "carry the war into Africa" when necesry. This trait is essential in executive positions, also in seaptains, engineers, etc., and many of the latter are of this short, ocky, sturdy build; it requires a good short neck for these poions. Henry the VIII's portrait is a most striking illustration of lf-will; to this trait he added large Amativeness, and under the fluence of these two mighty passions he threw off the yoke of the

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* An Attempt to Establish Physiognomy on Scientific Principles, John Cross, M.D., p. 144.

Roman hierarchy; his tremendous will enabled him to successfully cope with that then powerful institution. Martin Luther illustrates another sort of will, a will allied to large moral force, and he, too, was successful. Bismarck, the great German statesman, has shown what will allied to statecraft can do. Grover Cleveland has made a striking exhibition of will, associated with executive power, and has been able to resist the onslaughts of all the "cross-road" politicians in their endeavors to "run" the government for him. This neck is indicative of apoplectic tendencies.

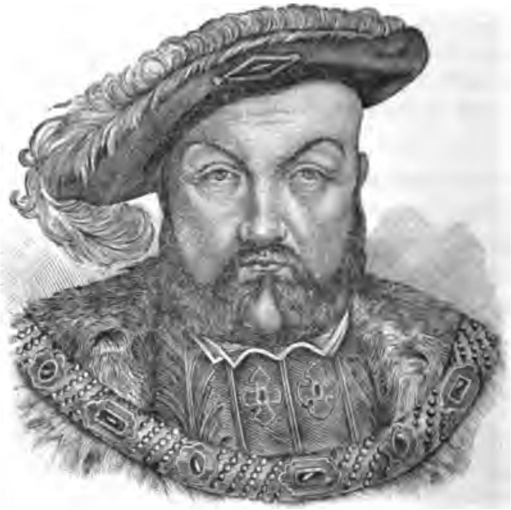

FIG. 321.—THE WILLFUL NECK. (HENRY VIII, KING OF ENGLAND.)

Born 1441. This portrait illustrates in a remarkable manner the presence of Self-will. This is shown not alone by the structure of the neck, but also by the entire organism. The combination of the facial signs reveals a selfish, despotic will and unbridled Amativeness, which, backed by such a tremendous will, made his character detestable. He possessed a good degree of learning for his time. It was said of him that "he never spared man in his anger nor woman in his lust." He was an able statesman, bold and defiant. He opposed successfully the powerful Roman hierarchy and assumed control of the Church of England, which has since been held by all succeeding sovereigns.

The Amative Neck.—Amativeness is another attribute disclosed by the short, thick, muscular neck, for those in whom the muscular is one of the superior systems are the most amative and passionate. The amative neck in females is often very beautiful, soft, and white; it is never long and thin, but has considerable adipose tissue in combination with the muscular development.

The vegetative neck is not to be confounded with the muscular neck; the vegetative neck is composed mainly of soft, fat tissue, with numerous deep folds; it denotes the glutton, also negative character, neither active, artistic, nor mental, except in a most limited degree.

Sensualists' necks partake somewhat of the muscular and the vegetative; they are relatively short, somewhat wrinkled, and red.

The Neck of Self-esteem.—Self-esteem is shown more by the manner of carrying the head than by the shape of the neck; when this trait is large the head is carried in an erect and lofty manner, firm, rather long than short, and on a line with the backbone.

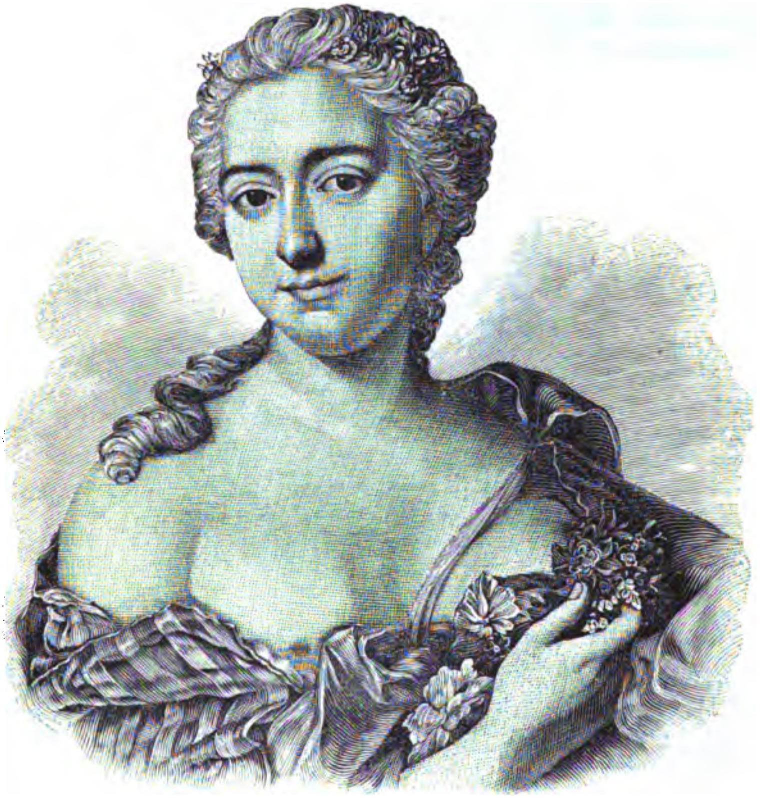

FIG. 822.—THE AMATIVE NECK. (MARCHIONESS DE POMPADOUR, OF FRANCE.)

Born 1715. A handsome and talented woman, and favorite of King Louis XV. This lady was skilled in statecraft, and exerted a controlling influence over the king until her death. The head is slightly turned aside, thus showing the affable approbation of the woman of the world and of society. The Marchioness was noted for her tact, graceful manners, and astuteness. It is said by historians that she took a leading part in bringing about the war of 1756.

If it be excessive the head will incline slightly backward, exhibiting a pompous, egotistic attitude; a glance at these ceremonious "turvy-drops" will show that the facial sign for Self-esteem (length of the upper lip) is very marked.

The Attentive Neck.—The power for close and prolonged observation is one attribute of a very good intellect, and is the characteristic of all really intelligent persons. Indeed, so highly is this trait ranked by the greatest minds, that Lord Bacon has remarked of this faculty, that "genius is only protracted patience;" and Lord Chesterfield observes: "The power of applying the attention steadily and undissipatedly to a single subject is the sure mark of a superior genius."

The physiognomical language of attention is shown by a forward and slightly sidewise direction of the neck and head. The portraits of Watt the inventor exhibit this position; also the portraits of Captain Cook, Sir Joseph Banks, Dr. Jenner, and Thomas Alva Edison. Dr. Cross has made most just observation of this peculiarity, for of it he remarks thus:—

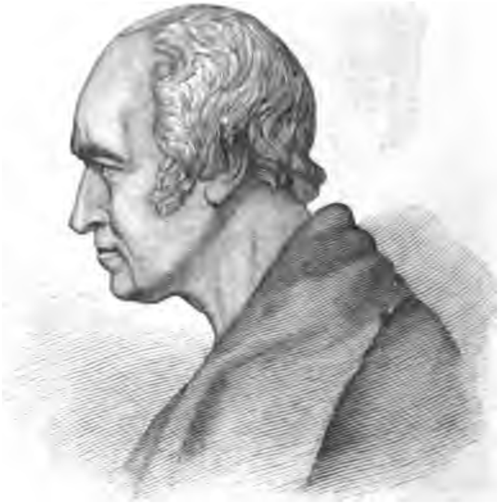

FIG. 323.—THE ATTENTIVE NECK. (JAMES WATT, INVENTOR AND AUTHOR.)

Born in England, 1769. The long-continued thought and close observation which the subject of this sketch practiced have left their impress upon every feature and line of the face. The head, bent forward in the pursuit of knowledge, is quite different in its aspect from that of the miser, Elwes, in pursuit of gold. James Watt was one of the world's benefactors, for his discoveries have enriched posterity by labor-saving principles. He will live in the memory of man as long as great and useful minds are appreciated.

> As the neck is the stalk upon which the senses are held up to take their survey of the necessaries and comforts of life, so the posture or attitude of the neck must mark the earnestness of the character in the pursuit after these necessaries and comforts. The earnestness of the animal is indicated by the *direction* of the neck; the more the neck is bent forward, the more are the senses bent upon these objects.*

The heads of careless, thoughtless persons never present this forward inclination.

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* An Attempt to Establish Physiognomy on Scientific Principles, John Cross, M.D., p. 146.

The Sagacious Neck.—The most sagacious men and animals exhibit muscular necks of large size, but so short as to make the head appear connected with the shoulders.

The elephant is a good illustration among animals of this peculiarity and its associated sagacity.

The Timid Neck.—Those animals which exhibit long and thin necks are characterized by extreme timidity and sensitiveness, as witness the deer tribes, the greyhound, and the giraffe.

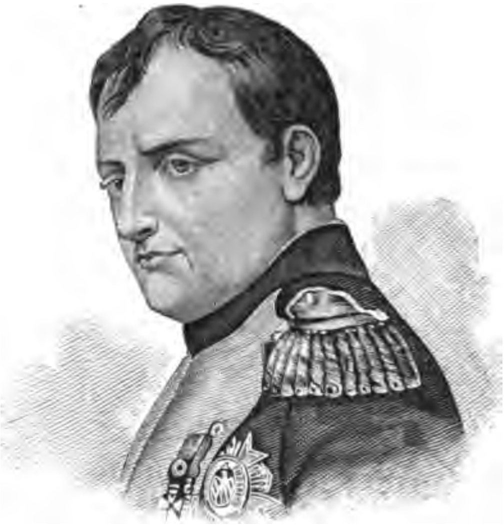

FIG. 824.—THE SAGACIOUS NECK. (NAPOLEON BONAPARTE, EMPEROR OF FRANCE.)

Born in Ajaccio, Corsica, 1769. Bonaparte was an able military commander and rose to the highest positions from the humblest ranks. This subject is one of the most fascinating characters in history. His life has been written by many authors, and, however they differ on minor points, all award him the palm for sagacity, breadth, and astuteness of intellect. The nearness of the vital organs—the heart and lungs—to the broad and high head gave a great quantity of well-oxygenated blood to that organ, and caused him to be both prompt and profound in his mental operations. He possessed what I term a "chess" head; that is, a brain suited to making grand combinations with ease. The physiognomical as well as physiological signification of the form of his neck, and the manner in which it is set upon his shoulders, are quite apparent to the physiognomist, for they disclose enormous Will and Amativeness, as well as Sagacity. The moral sense of Napoleon was sadly deficient. Of him Emerson wrote: "He is a boundless liar; he has not the merit of common truth and honesty." His treatment of women, particularly of Madame de Staël, can only be explained on the ground of jealousy of her superior mental endowment. With all his ability, he did not know how to attach this great woman to him and use her talents for the nation's good and glory. Napoleon's vigorous intellect was inherited from his mother, who possessed uncommon strength of character.

The long and thin neck in the human being denotes timidity, and if the inherited quality be of a high grade extreme sensitiveness will be exhibited as well. This type is apt to be a prey to consumption or dyspepsia; the giraffe is often afflicted with dyspepsia even in a state of nature.

The Graceful Neck.—The graceful neck is not to be confounded with the *long* and *thin neck.* The graceful neck must, indeed, be rather long, yet one element of its gracefulness is found in its *correct proportion;* it must harmonize with the shoulders and bust as well as with the head. This neck is a mark of an affable disposition. The portraits of the Princess of Wales, Ex-Empress Eugènie, Mrs. Langtry, Lady Blessington, the Duchess of Leinster, Pauline Bonaparte, the Empress Josephine, and Mary Anderson

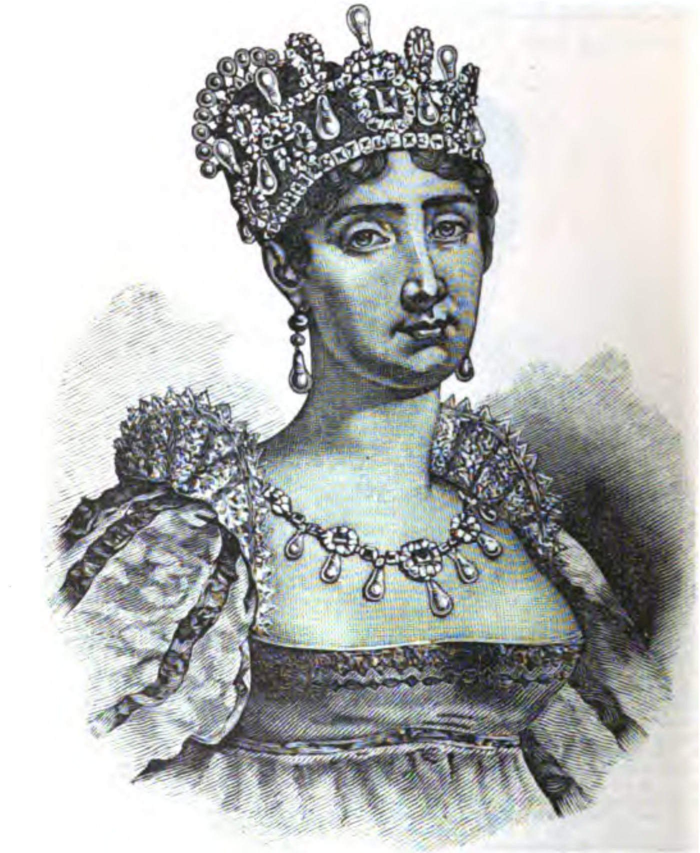

FIG. 325.—THE GRACEFUL NECK. (JOSEPHINE, EX-EMPRESS OF FRANCE.)

Born at the Island of Martinique, 1763. Wife of the Emperor Napoleon Bonaparte. This subject was one of the most beautiful women who ever graced a throne. She was noted for her graceful manners, her affable and ingenuous disposition, and her generosity. She was one of the best sovereigns of France, and retained until her death the high esteem and respect of all who knew her.

exhibit graceful, white, and rounded necks. The graceful neck may be long or short, but it must be proportioned to the shoulders and body which it connects; it must be molded in a circular form, of a clear white or clear olive or black color, smooth and polished in texture, and intelligent and graceful in motion. These necks are not rare, but the present fashions give little opportunity for their display—which is to be regretted, as practical observation of the most beautiful parts of the human frame tends to create a high ideal of beauty; for this reason natural beauties should be *constantly* before our eyes. The customary freedom in dress, as practiced by the Greeks, gave to them a universal conception of the beauty of the human form, and this cultivated taste evolved those immortal

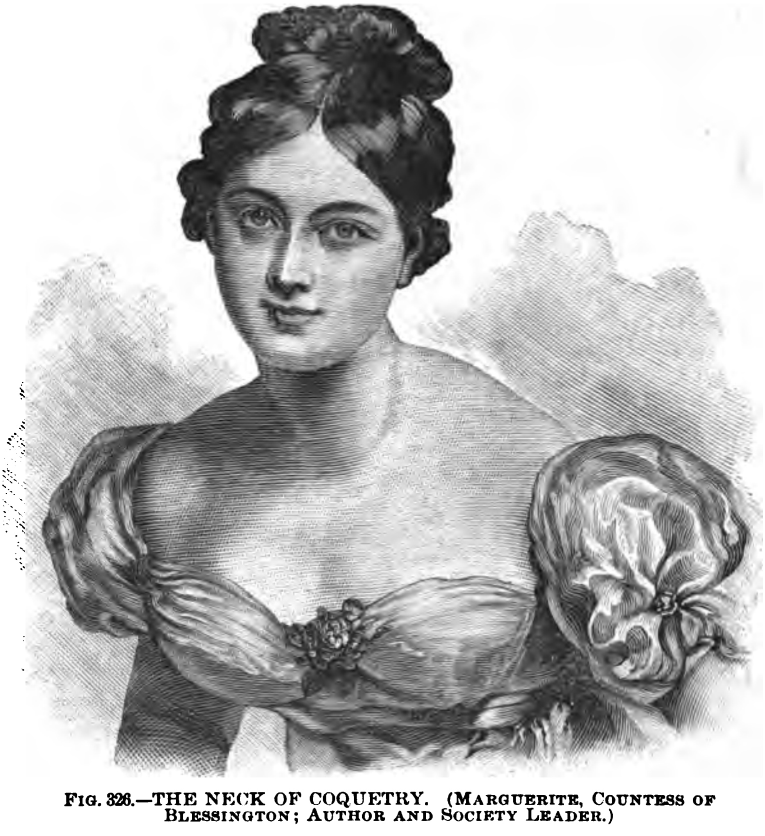

FIG. 326.—THE NECK OF COQUETRY. (MARGUERITE, COUNTESS OF BLESSINGTON; AUTHOR AND SOCIETY LEADER.)

Born in Ireland, 1789. The lively face which accompanies this sketch is that of one of the most charming of society women. Her talents, beauty, and agreeable manners and conversation drew to her residence, Gere Home, London, the most eminent men and women of her day. She was witty and droll in conversation, to which she added an arch and agreeable coquetry, which well became her style. The carriage of the head and position of the neck are rich in physiognomic meaning.

asterpieces of the ancient Greek sculptors which are found in e galleries of Europe, and which are the models of artists and e admiration of the ages.

The Language of Coquetry.—The coquette reveals her disosition by tossing and nodding the head sidewise and forward hile in conversation with the opposite sex, and by holding her ead sidewise while in conversation.

The Language of Hypocrisy.—This is shown by an appearance of deference and humility, by a too conspicuous bending of the neck forward, and the casting down the eyes with a sort of "Uriah Heep" expression in the face.

The Avaricious Neck.—*Avarice* stretches the long, shriveled neck far forward with all the eagerness of a hound in pursuit of its prey.

The Language of Veneration.—Veneration bends the head downward toward the breast in a devout attitude.

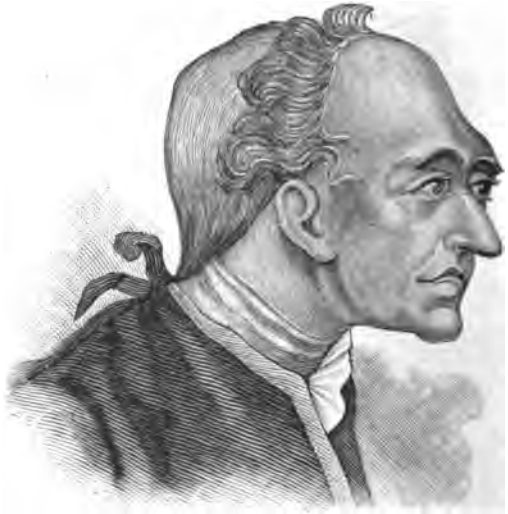

FIG. 327.—THE AVARICIOUS NECK. (JOHN ELWES, M.P., OF ENGLAND.)

This subject was not only a most avaricious character, but was also a great miser. These traits he inherited from both his maternal and paternal ancestry, hence he received a large and most intensified degree of both traits. A comparison of his neck with that of Watt will disclose very diverse characteristics: both reach forward, but it is easy to divine that they reach for very different objects. This gentleman was a great gambler, but so saving was he that after sitting up a whole night to play for thousands of pounds he would walk seventeen miles to one of his estates rather than pay for riding. Mr. Elwes was a wealthy man and had the manners of a gentleman, but lived in filth and penury. His entire living cost but fifty pounds per year. He left to his two natural sons eight hundred thousand pounds sterling. His face wears a very sharp, keen, alert expression, but all his quickness of apprehension was turned to gaining.

The Youthful Neck.—Youth moves the neck with animal-like freedom in order to constantly bring the surroundings into view. The white, smooth, rounded neck of a healthy child or infant is a beautiful object, yet it only expresses youth and has no other meaning.

The Gluttonous Neck.—Two or three deep wrinkles running completely around the neck of an adult bespeak a large degree of the vegetative system and gluttonous tendencies.

The Aged Neck.—Old age droops the neck forward until at last the chin rests upon the breast.

The Hand.

A work on physiognomy would be incomplete without a description of the physiognomical meanings of the several fundamental sorts of hands. The hand has been with truth termed "the second face," for it not only corroborates what the face indicates, but it also reveals some things which the face does not; and whenever I am perplexed or in doubt as to certain indications in the face, a reference to its associated hand clears away the mystery. The hand is the most wonderful member of the human body; the language expressed by its movements, aside from its size, form, color, and texture, is marvelously clear, explicit, and eloquent. Says Montaigne:—

> With the hand we demand, we promise, we call, dismiss, threaten, entreat, supplicate, deny, refer, interrogate, admire, reckon, confess, repent, express, feel, express shame, express doubt, we instruct, command, write, encourage, swear, testify, accuse, condemn, acquit, insult, despise, defy, disdain, flatter, applaud, bless, adore, ridicule, reconcile, recommend, exalt, recall, gladden, complain, afflict, discomfort, discourage, astonish, exclaim, indicate silence, and what not with a variety and multiplication that keep pace with the tongue.

The human hand is unique; no member of the animal kinglom has a grasper which is at all comparable to the human hand nd its opposable thumb; even the members of the ape tribe, which re the nearest to man in structure, have a hand entirely devoid f the subtle powers which characterize the human hand. One night fill a large volume with descriptions of the hand and its haracteristics, and then not enumerate the half of its powers.

In form every hand is at once the indicator and epitome of he body and brain to which it belongs. The face and brain of an rtist have associated with them an artist's flexible, muscular hand. he natural mechanic has, with his square-boned hand, the bony ody, the square forehead, and the rectangular face, which indicate is dominant capacity; for "Nature never made a man with the rm of one person and the character of another." The first halanx, that is, the end joint of the finger, ought, to a good physignomist, to reveal the shape of the body, the head, the face, and atures, as well as the *dominant traits* of character. If the tip e tapering the muscular system dominates, and the subject is overned by the law of the circle or curve. If the tip be square e mind tends to mechanism or science, and exemplifies the law the straight line and angle. So exactly do the basic principles of orm apply to the hand, finger, and finger-nail, that any observing person, after having mastered these principles, ought to be able to describe the main characteristics of any subject under observation, as well as the shape of his face, his bones, his jaws, his chin, and his nose, by inspection of the first phalanx and the nail of a single finger.

A great deal of compilation and translation has been made within the past few years on the subject of "The Science of the Hand," in which many truths have been elaborated as to the *meanings* of the *forms* of the hand and fingers, but without the *sound scientific basis* afforded by the basic principles of Form and comparative anatomy and comparative physiognomy. My observation on this subject will afford the reader the scientific bases which the works of D'Arpentigny and Desbarolless lack, albeit their works contain a fund of excellent information, but present the subject in its infantoid phase as an *art* and not as a science, and mingled with a vast amount of mediæval superstition.

The spirit of patient research, close comparison, and accurate observation of these two eminent writers on the Hand is most admirable, but, when they assert that certain forms of the hands are the results of the influence of an "occult astral fluid," it reminds one of the many fanciful and exploded theories of the mediæval age. The practical, common-sense age in which we live demands a demonstrable basis upon which to build a science of the hand as well as of the face of man. In this harmonious and orderly system of physiognomy this common base is elaborated, as I believe, in a practical and scientific manner. In my treatment of the physiognomy of the hand I shall use the basic principles of Form for my guide, as developed in Chapter II, Part I, for the explanation of the meanings of the several fundamental types of hand. The basic elements of Form, viz., the line, the angle, the square, and curve, apply to the hands, the fingers, and nails, in the translation of their forms into character, just as they do to the forms of the features and body.

The *color* and *texture* of the skin of the hands and of the nails are subject to the same general interpretation as are the same qualities found on other parts of the organism.

In reading character by the hand, it will be found to be in harmony with the face, and they will mutually interpret and corroborate each other; where the bone is the dominant tissue in the hand, and it be a square bone, the observer may be sure that the law of the straight line, the square, and angle governs the shape of the face, and this informs him that the ruling powers of the mind will be turned in the direction of science or mechanism, and that the strongest traits will be a love of order, thoroughness, and observation, and that morality and conscientiousness will be the most conspicuous principles in the character.

Should muscle be the superior tissue in the hand, and the muscles be of the round class, a taste for music, sport, and domestic life will be present, as well as commercial and artistic powers. The same laws which reveal character in the face also rule in the delineation of character by the hand. Every minute appearance in the hand is as significant as when observed in the face, and close observation is essential to obtain the full import of these variations. Desbarolles says:—

> Hands may *resemble* one another, but Nature never repeats herself, and in objects apparently the most similar she places, sometimes by an imperceptible touch, a complete diversity of instincts.*

Every combination which can be made by the mingling of round muscle with square bones, or by the blending of round muscle with round bones, or by the joining of square bones with flat muscles, reveals a different character, and their anatomical diversities are just as potent in disclosing character by the hand as by the face or body. The form, size, color, and quality are not the only factors to be taken into account in reading the hand. We must observe the habitual movement, gesture, repose, proportions, hardness, softness, elasticity, extension, tension, curvation, and squareness of the several points and phalanges, and of the hand as a whole. Hard labor and certain kinds of labor often change very materially the hand and shape of the fingers, but it cannot change *all* of the natural characteristics so as to completely transform the appearance and produce the form of another distinct type; hard labor may thicken and widen the palm, it may enlarge the joints, but it cannot flatten the nail, nor make an oval nail square, nor make spatulate the square tip, nor make a round muscle flat, nor a square bone round. It cannot destroy the proportion of the phalanges; in short, it cannot so far modify the type-characteristics as to prevent the physiognomist from comprehending the accompanying character.

THE CONSTRUCTION AND DIVISIONS OF THE HAND.

The hand is divided primarily into three parts, viz., the carpus, metacarpus, and fingers. The fingers are divided into fourteen phalanges or joints, the thumb having but two phalanges. The joint which joins the hand is termed the first phalanx, the succeeding one the second phalanx, and the end joint the tip. The palm has two surfaces,—the back, or outside, and the inside, commonly termed the "palm." The finger-tips are provided with abundance of fine and sensitive papillæ, or organs of touch, which give such exquisite tactile sense to the tips of the fingers; this sensitiveness has led to the expression that the tips are the "eyes of the hand."

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*The Mysteries of the Hand, A. Desbarolles, p. 176.

The latter will be fine and sensitive, or coarse and insensitive. according as the skin is fine and thin, or coarse and thick; the texture of the hand coincides with that of the rest of the body. and in this manner the physiognomist decides upon the mental grade of the subject.

The hand may be soft and muscular, or soft and fat; the former indicates strength and artistic sense, the latter a dull, negative, vegetative nature. Warm hands denote good circulation, hence active mental powers, lively emotions, and sympathy; cool hands belong to those whose circulation is not rapid, hence they are not so quick mentally nor so strongly sympathetic as the former. Moist hands, except in warm weather, announce pathognomonic disturbances, and indicate an abnormal condition. I have felt in one day the hands of a number of insane persons, and without exception I have found them cold and clammy, with a disagreeable moisture on them, thus showing disordered physical conditions.

The form of the hand always agrees with the form of the body or brain; that is to say, a long, thin hand will accompany a tall, thin body, and a short, thick hand belongs to a short and thick person; a short, fat, "dumpy" hand goes with the vegetative body.

There is no such thing as an "aristocratic" hand. Aristocracy is a human institution, while the shape of hands are a mark of Nature. Beautiful hands are not confined to any particular rank of life. True, the idle aristocrat can spend his time with the manicure, polishing his nails, and thus improve their looks; while the poor plebeian, born, perhaps, with the mind of an artist, or a metaphysician, may not devote as much time as the former to the cultivation of his finger-nails, yet exhibit a more beautiful hand. Hands which betray only superstition and imagination are often designated "aristocratic" by the ignorant, simply because they are white and soft, of small size, and of pleasing form; in this small, characterless hand the "aristocracy" is shown by less mentality or morality than is disclosed by more highly developed hands. I cannot imagine a more characterless hand than that of a Chinese woman, yet her hands are of the useless type termed "aristocratic" by those who know nothing of the *inherent meanings* of the forms of Nature.

The palm of the hand and the lowest phalanx of the thumb resemble the form of the trunk, or body, while the tips of the fingers and thumb are indicative of the shape of the brain, and by their form and texture announce *its quality* and *powers*. A small, tapering thumb on a large or medium-sized hand denotes instinct, sentiment, passion, and a lack of strong reasoning powers, while a large, square-boned tip of the thumb indicates order, logic, and considerable firmness and perseverance.

THE POSITION OF THE HAND.

The habitual mode of holding the hand is a strong indicator of character. Avaricious people carry the hand with the fingers slightly curved, as if ready to clutch something; hence the term "close-fisted." The very secretive close the hand, or nearly so; while the heedless have the hands dangling loosely at their sides. Generous, frank, and open characters carry the hand wide open, and turn the palm or face of the hand outward toward the spectators; whence the term "open-handed."

THE LINES OF THE HAND.

The palm and the back of the hand present two diverse aspects of the character. The back is mainly bony, the palm is muscular or fat. Some of the lines of the palm of the hand appear at birth, others are caused by the development of the muscle or fat thereon. These lines are quite different in every individual, and the lines of the two hands of each individual are in most instances as diverse in appearance as are the two ears on the head of a given subject.

To a good physiognomist these lines (at least some of them) reveal much of the structure of the body, but whether they reveal one's *destiny*, as is claimed by palmistry, I am not able to say. It would not seem to me at all improbable, but it must have taken hundreds of observers and ages of research and comparison to have developed a practical system of this science. Some of the lines—those around the base of the thumb and on the inside of the knuckle-joints—are caused by the movements of the thumb and fingers; whether they have another and more occult meaning I know not. In fat hands these wrinkles would be deeper than in bony ones, and thus reveal physiognomical meanings. The hand seems to me a marvelously complex and subtle member, and pregnant with meaning in its numerous developments of form, size, color, texture, and motion, second only to the face as a physiognomical indicator, and often disclosing what the face does not reveal.

The primary or fundamental forms of the hand are four, and accord with the vegetative, the muscular, the osseous, and the brain and nerve systems. All other forms are composites or blends of these four primitive types.

THE VEGETATIVE OR INFANTOID HAND.

The hand of a healthy infant is soft, fat, and almost destitute of any expression of character; it is in this stage only a picture of innocent, peaceful beauty, yet withal a symbol of undevelopment, like its associated forehead and mouth.

The hand of the vegetative adult is short, rather than long; thick, soft, and fat; the palm short and thick, the fingers fat and wrinkled, the knuckles dimpled, and with scarcely any more expression than the hand of the infant, yet lacking the beauty of the babe. This form of hand discloses absence of force and activity, and the signs of both negative and positive character are as apparent in the hand as in the face.

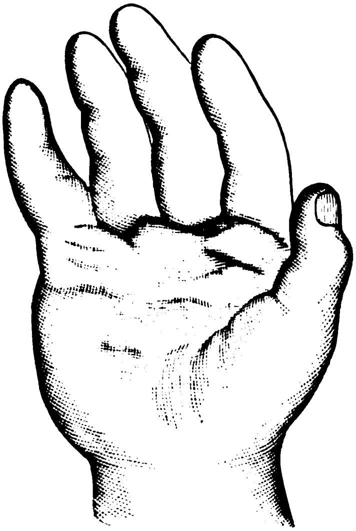

FIG. 328.—VEGETATIVE HAND.

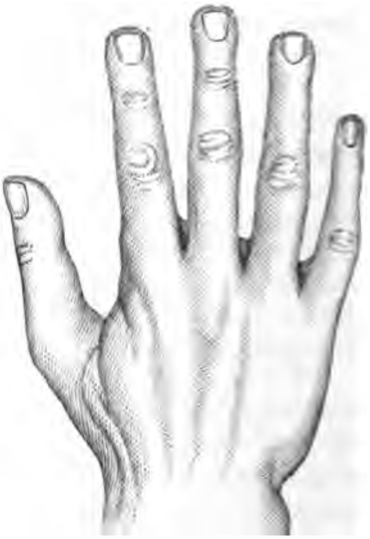

FIG. 329.—SPATULATE HAND.

The vegetative hand announces love of ease and repose, together with fondness for eating, and particularly for liquid diet; also love of amusements (if others make the effort), together with scant moral and intellectual powers, small self-control, and an ever-changing, fickle disposition, contented and good-natured until opposed, and then as wrathful as a rhinoceros in its rage. Domestic tastes (of a negative sort) are disclosed by this type of hand.

MUSCULAR CLASS OF HANDS.

Spatulate Type.—The main peculiarity of this type is found in the tips of the fingers, and the manner in which the nails are placed upon them. The word "spatulate," from which the term "spatulated" is derived, is used to designate the implement which the apothecary uses in mixing his compounds. It has been applied to those fingers which in a manner resemble that implement, which makes an excellent description of them. (See Fig. 329.)

The spatulate hand belongs to the muscular class, because, as is observed, the joints are not prominent, but straight at the sides, and hidden by muscle. There are several varieties of this type of hand, some of which have the thumb large, while others are small. The complexities and subtleties of the various combinations of form, as seen in diverse varieties of the same class of hand, are manifold. I have not space to delineate all of them, and can only give the associated characteristics of the primitive types.

The spatulate hand is the *useful* or practical hand within the muscular class. It shows by its flattened-out tip that the brain system is not one of the supreme systems of the associated organism. This form of hand is one which loves labor—hard, patient, manual labor—and enjoys comfort rather than luxury; its possessors present the most practical phase of the muscular classes; they exhibit an every-day, common-sense spirit, and enjoy the logic of facts rather than poetry; they are a combination of the mechanico-scientism of the square-boned subjects, with a slight degree of the artistic powers of the muscular hand, of *an ordinary quality.* Among them, therefore, we may look for good calculators, arithmeticians, and builders, those who are willing to do the real work of architecture, as well as able to superintend it; many carpenters and architects are found in this class.

They do not possess ardor and enthusiasm, but rather a cool, plodding, patient, and obstinate disposition, faithful to love and home, enjoying the liberty that others have created for them, and assisting to conserve and maintain a liberal government, yet lacking the push and enterprise to found such a one; hence, we do not find this form of hand among religious fanatics, governmental reformers, pioneers, and discoverers.

Commercial Type.—There are two distinct forms of hand included in the muscular class; one is short and thick, with fingers and thumb short and thick, and the joints smooth and concealed by the muscles, the fingers inclined to taper without being small at he tip, and the nails moderately broad and oval; this description hows that the round muscles are present.

The character which accompanies such a hand is commercial. amative, social, sportive, musical, and domestic, with a great deal of vitality, will, force, courage, vigor, and magnetism. W. H. Vanderbilt's and Roswell P. Flower's hands belong to this class.

Executive Type.—One of the varieties of this class is caused by a combination of the round muscles and square bones; with a large brain of high quality this modification shows capacity for politics and government, and exhibits ambition to fill executive positions. Many distinguished statesmen disclose this form of hand; Grover Cleveland's hands and those of the late Ex-President Thiers, of France, are examples of this class. This type of hand has a short, thick palm, with moderately short, thick fingers, of *fine texture* and color, a rather thick thumb, the joints of about equal length, and a wide, squarish nail. The dominant traits are Will, Force, Executiveness, Logic, and Ambition, with a subdominance of domestic tastes. This hand has a powerful grip, and is characterized by a quality neither very hard nor very soft.

Artistic Type (*Round Muscles*).—Another variety of the artistic hand is caused by a combination of round muscles with round bones and a subdominance of the vegetative system; this blend produces the best form for artistic efforts, for it gives strength and flexibility, with capacity for rapidity of movement; the qualities are essential to artists, singers, painters, instrumentalists, poets, and athletes. The palm exhibited by this structure is moderately thick, soft, and flexible, the knuckles often dimpled, the fingers of moderate size and length, and the joints entirely hidden; the fingers taper from the knuckles to the tips, which are conical. Many of the most eminent singers, poets, and painters possess this form of hand,—with individual differences, of course. With this hand is associated a character possessed of more emotion and affection than reason or logic; it discloses inspiration and magnetism, considerable Approbativeness, domestic tastes, particularly love of the young and love of the opposite sex.

Superstitious Type (*Round Muscles*).—Metaphysics is an art, not a science; sophists, idealists, and fanatics illustrate this type, for they deal in theories, both secular and religious, which are unsupported by facts. They can easily swing around the circle of faiths if only they be sufficiently fanciful, sentimental, and impractical, and tinctured with a mystically-religious spirit. This class of persons exhibit a small, thin hand, of fine texture, with long, slim, and flexible, tapering fingers, *pointed* at the *tip;* a slim, medium-sized thumb, also tapering; and a narrow, longish, oval nail, of an elegant appearance. This type of hand is found mainly among tropical races,—in Asia, India, and among the Celts of Continental Europe. The religions of these people are founded on miracle and mysticism; their doctrines are of a dreamy, listless, negative nature; they possess emotion and affection rather than reason, justice, or morality. This form of hand is rare in northern countries, where practical common sense and reason abound. It illustrates the law of the curve rather than the law of the straight line and square, and thus reveals an artistic, sensuous nature.

The Hand of Deceit and Dishonesty.—Fingers very slim and very flexible, if pointed, indicate error, falsehood, sophistry, trickery, and deceit. The hands and fingers of many sneak-thieves are a modification of this type. I have observed many Chinese men and women in California with the superstitious hand; also a few of Anglo-Saxon descent. If the stature is tall the hand will be long in proportion.

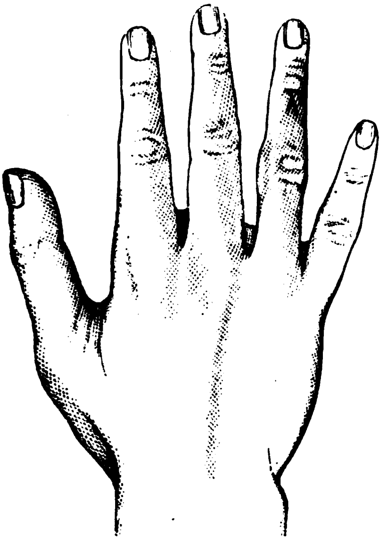

FIG. 330.—ARTISTIC HAND.

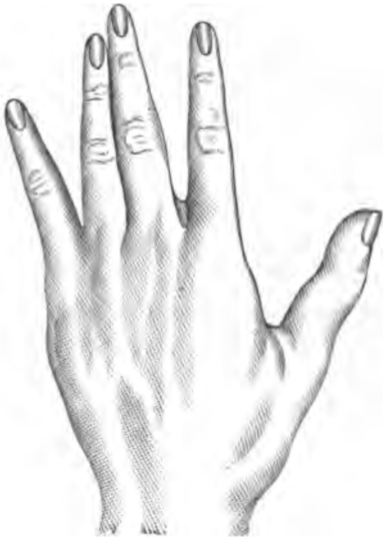

FIG. 331.—SUPERSTITIOUS HAND.

MUSCULAR CLASS, NO. II (ROUND MUSCLES).

Artistic Type.—This type of the muscular hand is longer and thinner than the preceding, with longer fingers, the tips of which are hidden by the muscle; the fingers very slim, flexible, and ending in a conical tip, and a longish, oval nail; the thumb long and thin. The character associated with this hand is intuitional,—much given to romance and music; to religion of an occult and superstitious nature; to poetry; to sentimental love and friendship. The eyes associated with this hand are large, flat, and round, but *not convex;* the neck, waist, and limbs are rather long. Ole Bull, the celebrated violinist, possessed hands of this type. Paganini, another wonderful violinist, had a most exaggerated form of this type; his hand had a weird, wizard-like expression, and harmonized with his face, which was of an almost unearthly appearance. Both of these artists were very tall, thin, and elastic, and resembled the bow of the instrument from which they drew strains of seraphic melody. Many poets exhibit this type of hand; also skillful jugglers, prestidigitateurs, and clowns.

THE OSSEOUS CLASS (SQUARE BONES).

Mechanical Type.—This class of hands exhibits three diverse types, and is revealed by the square-boned hand and square, flat nail; the second by the round-boned hand; the third by the square-boned fingers, knotty joints, with the tip not so square as the purely mechanical hand, and the nail curved outward instead of being flat, and with more of an oval form than the first mentioned. The square-boned hand of the mechanic has the bone predominant. It is characterized by a long palm; fingers with large, square bones, knotty joints, and square tips, and rather broad, flat nails. It is the hand of practical common sense, and is associated with observation, order, and morality, with faithful rather than ardent love, and is inclined to logical reason and religion founded upon the demonstrable rather than upon the miraculous. This hand is adapted to the heavier mechanical pursuits, to iron-work, plumbing, ship-building, carpentry, blacksmithing, etc. With this hand the bony system is slightly in excess of the muscular, with the muscle second in development; where there is a good brain and nerve system in combination the subject is capable of superintending mechanical works and of buying and selling mechanical implements.

Mechanical Type.—The second variety of the osseous hand is shown where the bones are round rather than square; this form of hand reveals the *artisan* rather than the *artist* or mechanic. It is a hand which has in a certain degree the power of both artist and mechanic. This type discloses a short and rather broad and strong palm, with short, round-boned, flexible fingers, and nails inclined to the oval; also a delicacy of touch suited to the finer works of mechanism, such as pattern-making, wood-carving, upholstery, type-writing, piano-playing, photography, millinery, and decorative art. With a good brain system in combination, ability for surgery will be often manifested, as surgery requires a small, strong, flexible, constructive, muscular hand.

Scientific Type.—The character which shows a decided taste or talent for the natural sciences has a hand more bony than muscular; the palm not so thick as the muscular hand, but long and bony; bony knuckles; large, square-boned thumb, with the two phalanges equal in length, or nearly so; longish, square-boned fingers with knotty joints, the tips more square than pointed, and the nails more oval than square and curving outward from side to side, instead of being flat and square, like the mechanical hand. The characteristics which accompany this hand are a love of truth and the facts and laws of Nature, and an insatiable desire to investigate them; a logical, rational mind; an even temper and the emotions well under control; the affections more tender than violent, and faithful rather than capricious. Those of this type desire reform, progress, elevation, learning, and liberty; they enter cordially into plans tending to advance these principles, and are original in opinion, firm, amenable to law and order, and independent in thought.

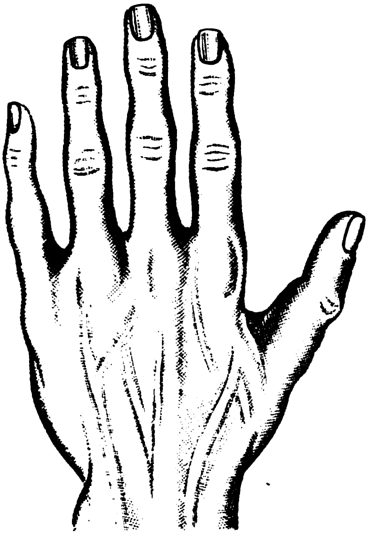

FIG. 332.—SCIENTIFIC HAND.

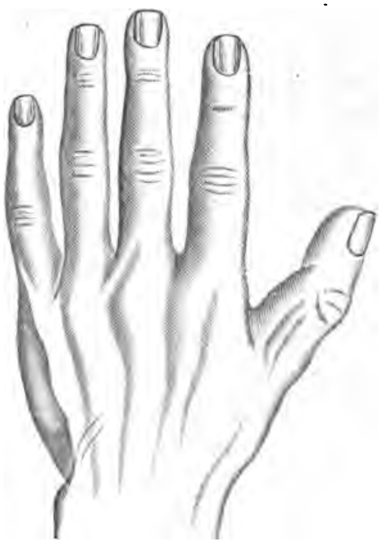

FIG. 333.—PHILOSOPHIC HAND.

Philosophic Type.—Philosophy is one of the branches of science, and its expounders are characterized by hands which contain a good deal of bone, with perhaps an almost equal amount of muscle; this gives the *art* side of science.

The palms of these hands are noted for their thickness and smoothness; the joints well marked, but hidden beneath the muscle; the fingers incline *slightly* to taper from the knuckle-joint, and the tips are a compromise between the square and oval; the nails are of the same compound form. The mental powers associated with this hand are of the logical order, and manifest themselves by a study of political economy and the fundamental principles of mind and matter; they evince a taste for realities rather than for ideals.

BRAIN CLASS.

Mental Type.—Those in whom the brain system is dominant disclose relatively small, thin hands, with a thin and rather feeble palm; very slim, tapering fingers, with the tips pointed and the nails small and oval; joints scarcely perceptible, and which seem as though composed of gristle rather than bone. The peculiarities of this class are manifested by power for protracted thought, and by great sensitiveness and delicacy of the emotions; the affections are platonic or sentimental rather than sensuous. If the form of the bones of the fingers be round the mind will incline to metaphysics and the *belles-lettres*, and if they be square the mind will turn to the study of the laws of Nature—of science and mechanism.

MIXED HANDS.

There are many hands which cannot be classed with any of the before-mentioned primitive types; they are the mixed hands, those which are not purely of one or the other of these types, but which partake somewhat of the nature of more than one.

It is impossible, within my present limits, to enter into a detailed description of this mixed multitude; I shall leave to the student an opportunity to exercise his comparison upon them; it will afford a fine field for physiognomic study, and an exercise of comparative anatomy as well.

There is one hand of the mixed varieties, however, which it is well to describe, inasmuch as it is often found in this country, but not so much among natives as among immigrants from Europe. These hands are seen mostly among the Russians, Hungarians, Poles, and the natives of other countries who have been working like "dumb-driven cattle" for ages. This hand is about evenly made up of bone and muscle of *coarse quality.* The palm is thick, hard, and broad, and spreads out as it nears the thumb in a rude outline; the fingers are long and thick, not flexible, with a *slight* inclination to taper; the joints are large, but not knotty; the nails are short and broad and of a rounding form; the thumb is not large in proportion to the fingers, and in its habitual position it curves outward.

The Useful Type.—The mind associated with this hand is obtuse, wanting in sensitiveness and imagination; the possessors of such are born drudges of the most common type; they are lacking in enterprise, progress, or artistic appreciation, and are indifferent to everything beyond their own material interests, and their ambition is satisfied with enough for the present. They care nothing for fame, reputation, nor religion, except one which exempts them from thinking, and are never zealous or enthusiastic in this direction; in short, it is the hand of stupidity, of drudgery, of dullness, and negative morality. This class of persons are very useful in all civilized communities as hewers of wood and drawers of water for those more finely organized; they fill the most lowly positions, and such as require little thought and judgment, such as wood-choppers, canal and railroad laborers, miners, scavengers, hostlers, etc. Should fortune favor them, as it often does in this country, and they obtain wealth and luxuries, they make a most unintelligent use of them, and are the laughing-stock of all, on account of the ignorant and tasteless manner which they exhibit in the use of them.

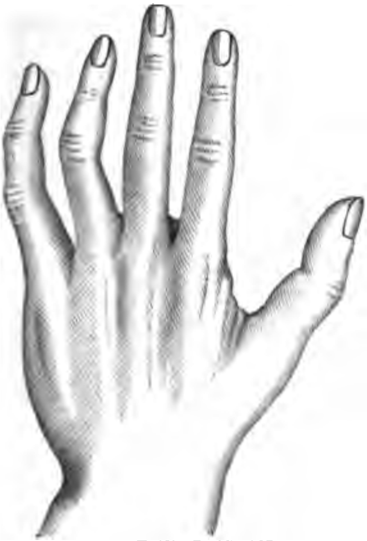

FIG. 334.—MENTAL HAND.

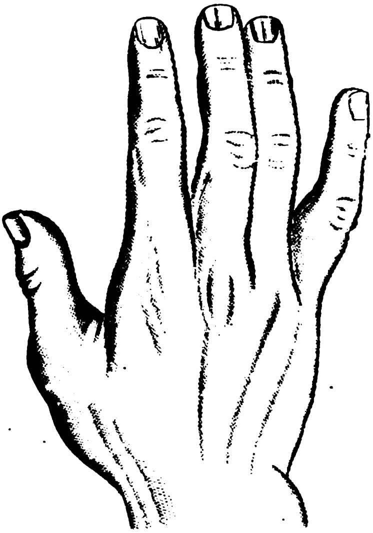

FIG. 335.—USEFUL HAND.

BEAUTIFUL HANDS.

Types of beautiful hands may be found within all of the fundamental classes, viz., among the vegetative, the muscular, the osseous, and the brain classes. A bony hand, if not too bony or scrawny, discloses one kind of beauty, a muscular hand another sort, and thus of each class of hands. A study of physiognomy will enlarge our understanding of beauty, and teach us that there are beauties to be found in hands other than those that are merely small, soft, and white, for *beauty of character* is often revealed by hands that are not small, soft, and white. A hand with the osseous system predominant, if associated with high quality, *i.e.*, with a fine skin and a healthy color, is certainly a beautiful hand, or appears so to one who has enlarged his understanding of beauty by a study of the *inherent meanings* of Form.

The hand of an adult which is soft, white, and dimpled, without much decided form, is almost as devoid of character as an infant's; any person who could consider this more beautiful than a bony hand, which reveals fine and noble characteristics, must certainly be wanting in physiognomical sense.

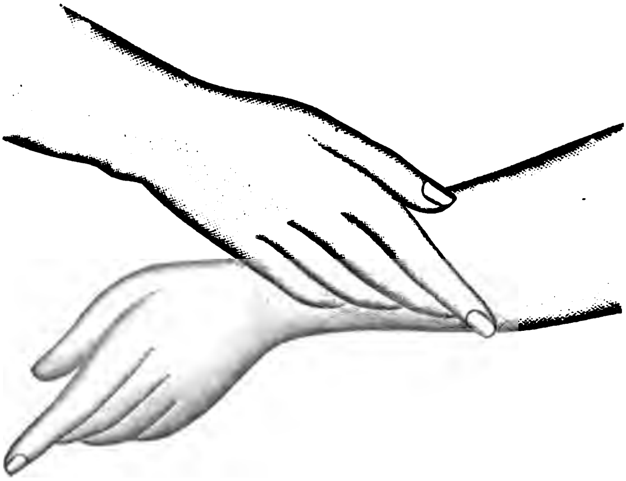

FIG. 336.—BEAUTIFUL HANDS. (EMPRESS OF RUSSIA.)

Various Types.—Hands in which the bones and nerves predominate arouse in me the utmost enthusiasm, inasmuch as they reveal the height of moral grandeur and heroism; such hands must have belonged to Andrew Jackson, and, slightly modified, to Abraham Lincoln and William Ewart Gladstone.

Hands seem to me to be beautiful that express capacity, either of a moral, mental, artistic, or useful nature.

I cannot consider a hand beautiful that is *disproportionately small.* When seen on a man it gives one an unpleasant feeling, and we *instinctively* feel that there is some littleness or a dwarfed condition of the associated character; a physiognomical investigation will show this to be the case.

Harmony of proportion in this, as in all features, constitutes real beauty. A hand or foot disproportionately small is no more a sign of beauty than is an undeveloped nose, mouth, or chin.

A well-proportioned hand is one which harmonizes not only in its several parts, but also with the arm and body to which it is attached.

In my estimation, large hands or feet on a man are signs of *manly character*, for such members express *power* of some sort; men whose hands and feet are large do nothing *on a small scale.*

The most beautiful object in this world, next to the human face, is a baby's hand; it is the embodiment of grace, innocence, and beauty.

Small wonder that the Palmers of old gazed into the hand in order to foretell the future. It is a wonderful and interesting object, and the next most striking feature to the human face, which I regard as the most marvelous object in existence; it is the epitome or sum of all things in the universe.

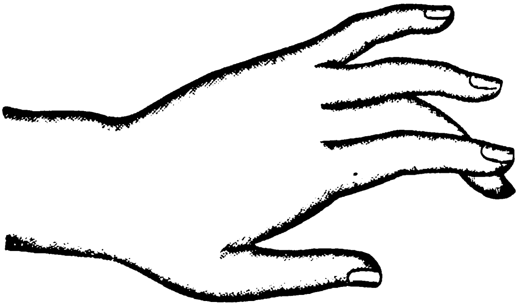

FIG. 387.—BEAUTIFUL HAND. (TAGLIONI.)

THE TEXTURE OF THE HAND.

A great deal of knowledge both of the mental and physical nature of individuals may be ascertained by the texture of the skin covering the hand. If it be fine-grained and thin, with the pores invisible to the naked eye, the mental powers are very keen, acute, and sensitive, the physical functions active, and the emotions intense by reason of the high organization of the brain and nervous system. If the pores are large and the skin thick, a common order of intellect is present and the functions and emotions are much less active than in the former subject. An excellent plan to ascertain the real condition of the skin is to inspect the under part of the wrist and arm, for this part is protected and usually retains its natural color and texture when labor and exposure have changed the texture and color of the skin of the hand.

A fine, brilliant color of the outer portion of the palm is a great beauty. This is seen only in the hands that express considerable intelligence; it is caused by a fine, thin skin and a healthy quality of blood.

The under part of the finger-tips should be a pink or of a healthy red color to come up to the normal standard.

THE COLOR OF THE HAND.

In a normal hand the skin should be white and clear, or brown and clear, and a roseate hue should be seen under the nails, the tips of the fingers, at the outer sides of the palm, and on the tip of the thumb. Hands that are well colored are warm, and this shows a good circulation and indicates great vitality, warm and active feelings, and strong sympathies.

Very thin, colorless hands denote a fragile, sensitive mind and body, not long for this world, because the stock of inherited vitality is not sufficient to continue life to an extended period.

Some hands are olive-colored, as we observe among the Spanish, Italian, and French. If the skin of these hands be clear in appearance and fine in texture, it is indicative of a high grade of quality and of mentality. If, on the contrary, they are thick and muddy in color and coarse in texture, it denotes a much coarser grade of feeling and inferior mental powers.

THE NAILS.

There are very great differences of form, size, color, and quality in the nails of the fingers; these diversities are as rich in physiognomic meaning as are the same qualities in the face.

The forms and sizes of the nails have been described along with their associated classes of hands and fingers. The texture of the nails discloses character. Nails of fine, thin, smooth appearance belong to the fine and refined, to the mental rather than to the unrefined and stupid; while nails thick and coarse in texture belong to the coarse, strong, and unrefined, with more capacity for manual than for mental labor. There are various grades between these two extremes which only careful observation and comparison of each subject can reveal; the nails will agree with the quality of the skin, and will indicate the mental status of its possessor.

Nails that present a flat appearance indicate dyspeptic and consumptive tendencies, or at least congenital weakness of the nutritive system. Nails that are highly arched from *side to side* disclose not only good assimilative powers, but also large lungs and an arched chest.

THE COLOR OF THE NAILS.

The *color of the nails* reveals internal powers, both physiological and mental. Colorless nails, if congenital, denote a feeble condition of the circulation—hence absence of strong, ardent sympathies—and a brain incapable of profound and protracted labor. If flat as well as colorless, they denote consumption or dyspepsia, and foretell an early decline.

A bright, pinkish color of the nails denotes a good quality of the blood, hence warm feelings and capacity for activity. If flat, with good color, the disposition is not as aspiring and energetic as when well-colored and arched from side to side; the latter belongs to the most energetic and ambitious minds, capable of profound thought-of executive powers, and desirious of leadership.

This combination of form and color shows that the thoracic and nutritive systems are well developed, hence the *arched nail*, combined with a healthy color, denotes just what the arch does wherever found, viz., power, vigor, activity, health, and longevity.

It is by these minute appearances that character is determined, for they rest on the basic laws of Form, and are governed by the laws of homogeneity and harmony, by the action of which one such minute portion of the body as the finger-nail is able to reveal the structure of the interior organs, the mode of action of the mind and feelings, and in many cases the probable duration of life.

Nails that are sallow in color disclose biliary weakness or jaundiced conditions.

Those that are dark in color announce imperfect aëration of the blood, hence imperfect action of the heart may be inferred.

Nails that bend over the tops of the fingers denote feebleness of the lungs or organs of digestion, or both.

The nails in some races, notably among the Chinese, are cultivated in lengths and are considered signs of high breeding, as showing that those who exhibit them are not obliged to do manual labor. I have seen many Chinese merchants with several of the finger-nails three or four inches in length, and I once met a man who trimmed the nail of his little finger to a point and wrote with it in place of a quill.

A nail arched and rosy, whether square or oval, is a sign of health and normal development; hence is a mark of beauty. The nails can be improved in shape, smoothness, and brilliancy by polishing and careful cultivation with brush and scissors.

"Hang-nails," as the loose bits of skin are termed which appear about the rim of the nails, should be removed, as they detract both from comfort and beauty.

Biting the nails is a habit which in children should be corrected; this can be done by making an application of myrrh or quassia to them. Ulceration of the stomach has resulted through swallowing the fragments of nails bitten off.

The preceding description of the several facial features and physiognomic indications gives most valuable knowledge of the human face, not only in regard to the *significations* of the form and color of the features, but also in regard to the subjects of *beauty*, morality, and intellect. I shall be rewarded if my ideas are understood and practically applied in the daily life of my readers.

CHAPTER IV.

SIGNS OF HEALTH AND DISEASE, STRENGTH AND WEAKNESS, BEAUTY AND UGLINESS IN THE HUMAN FACE AND BODY.

IT would seem, at first mention of the subject, almost a work of supererogation to point out the signs of health and disease, strength and weakness, beauty and ugliness in the face and body of man, but I find quite as great a lack of this knowledge in the minds of the masses as I do of physiognomical indications. I shall therefore devote a space to the discussion of these subjects.

Without a knowledge of scientific physiognomy and the basic principles of Form it is impossible to know what appearances in the face reveal either health, beauty, or feebleness, unless they are very decided, and even in this case there are many who could not state decisively what these indications were. The densest ignorance in regard to beauty is so prevalent that it is small wonder that its corresponding signs of health are as little understood, for strength, health, and beauty are synonymous.

The majority of people regard as beautiful only those faces and forms in which the *curve* abounds. Some do not have as high a standard of beauty as this, even, and regard as beautiful those features in which the *concave* outline is present.

Now, we have learned in the preceding chapters that the concave outline in any feature or member ever denotes relatively enfeebled conditions; hence, the concave nose, cheeks, or chest cannot rightly be considered beautiful because they are *departures* from the *normal standard* of Form, and denote relative weakness. In order, therefore, to have a *correct* idea of beauty, health, strength, or weakness, we must apply the laws of Form to every feature of the face and to every part of the body. In this way our comprehension of beauty, health, etc., will be much enlarged, and our knowledge of the powers of the human mind and body be greatly increased. Had we no *standards* of form by which to test our forms and powers, personal opinion would be the only criterion as to what constitutes beauty and health. The fact that one *likes* or *prefers* a certain formation or a certain face does not make that form or face beautiful, any more than disliking a face makes it ugly. The *application of the laws* of Form alone will reveal *true beauty*, as well as good health, strength, feebleness, or ugliness of features.

That face is healthful and beautiful which denotes a balanced condition of the several visceral organs and other systems of the body, *provided* the organism be of a normal quality and in a normal condition. A balanced state of the visceral organs is shown in the face by *general* development of *all* the *features*, together with a bright eye and a clear skin, a healthy color of the complexion, and well-colored eyes and hair, a good-sized nose, large nostrils, full cheeks, a well-proportioned chin, curving lower jaw, a forehead broad and wide (rather than narrow and high) and developed at the sides and front, well-shaped cheek-bones, a well-proportioned upper lip, gums not visible, regular teeth, broad (rather than long and narrow) and red, moist lips. These indications are all signs of beauty, whether observed separately or associated in the same physiognomy.

An unbalanced or weak organism is shown in the face by relatively small or imperfectly-constructed features, as, for example, a chin very short and narrow, hollow cheeks, perpendicular jaws, a mouth too small or misshapen, exposed gums, irregular teeth, or teeth long and narrow; thin, bloodless lips; a very short upper lip; nose very thin or extremely short or concave in its outline, or turned too far downward at the tip, or narrow nostrils; upper cheeks very flat; eyes extremely small and sunken or excessively large and bulging, or exhibiting a very narrow commissure or opening between the lids; hollows in the forehead at the temples or in the front of the forehead.

A thick, leaden-colored skin, or one that is colorless, or one too florid or purplish in hue, or covered with pimples and discolored spots; eyes and hair very light; narrow, high, spherical forehead; dull eyes, or those in which the sclerotic or "white" of the eye has turned yellow or is bloodshot,—all of the above-mentioned signs of weakness are all signs of ugliness or lack of beauty, of talent and mental ability.

SIGNS OF STRENGTH.

Great strength is not always the attribute of the largest bodies and faces, any more than the largest heads are the indicators of the greatest minds. As a rule, *very large* persons are not so strong and capable of endurance as those of medium size. One of the best indications of strength of body is breadth, not only of the shoulders, but of the head and features. A broad, compactly-built man, of medium height, who possesses a good, healthy skin and complexion, and well-colored eyes and hair, is more apt to be strong

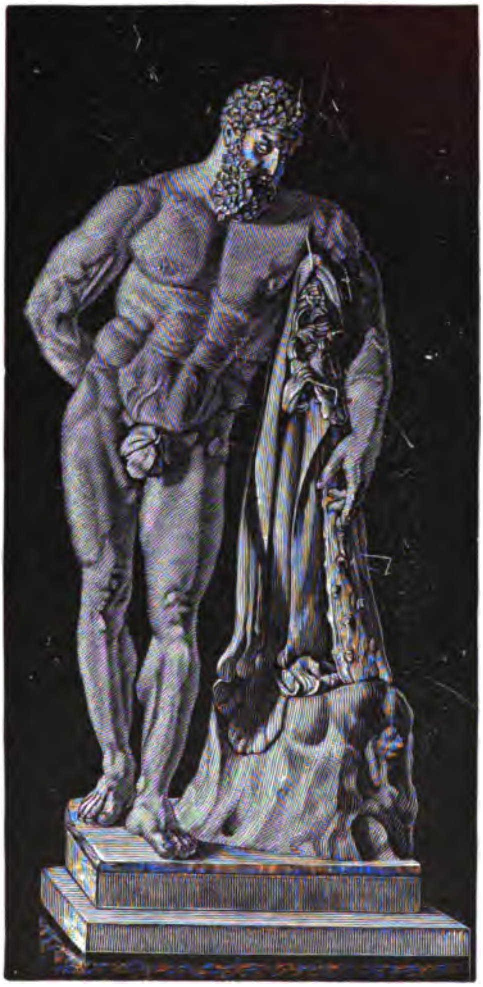

FIG. 338.—THE FARNESIAN HERCULES.

This grand statue, now in the Museum at Naples, was executed by Glycon, an Athenian, with the exception of the right hand, which is modern. The artist must have made a long and comprehensive study of both anatomy and physiognomy, for the face corroborates and repeats the body. It is a specimen of ancient art, and was discovered in the Baths of Caracalla. It is a model of manly strength and beauty, and embodies Lavater's signs of strength given in following pages. Were all mothers to follow the laws of Nature, such manly figures might be living realities, instead of being seen only in a marble statue.

than a very large man with pallid skin, very light eyes, flabby flesh, and muscles loosely put together.

The circumstance of color greatly influences the muscular power and capacity for endurance. Color gives strength and integrity to the tissues, and a good complexion is one indication of good arterial circulation.

There is a wide difference between mere muscular strength and the ability to *endure* long-sustained labor or deprivation of food and sleep. A good muscular development is required for great efforts in lifting, etc., but for endurance one must have a good digestion, normal nerves, strong and square bones, pure blood, and good lungs, as well as a fair endowment of muscle, and *all of high quality*. Form and Quality are the two most important factors in detecting signs of strength and weakness. Lavater has given so good a description of these indications that I here reproduce them, with his remarks thereon, for the benefit of my readers. He remarks thus:—

What we call *strength of body* is that natural faculty of man in virtue of which he acts powerfully and without effort upon another body, without easily yielding himself to a foreign impulsion. The more a man operates immediately, and the more difficult it is to move him, the stronger he is; the less he is able to operate, and the less resistance he can make to the shock of another body, the more weak he is.

Strength may be divided into two sorts,—the one, *calm*, the essence of which consists in immobility; the other, *lively*, which has motion for its essence; that is, it produces motion without yielding to it.

The latter may be exemplified by the elasticity of the spring; the former, by the firmness of the rock.

I put in the first class of strong persons those whom you may denominate *Herculeses*, in whom everything announces the most robust constitution; they are all bone and nerve; their stature is lofty, their flesh is firm and compact; they are pillars which cannot be moved.

Those of the second class are of a complexion which has not the same firmness nor the same density; they are less corpulent and massy than the preceding, but their power unfolds itself in proportion to the obstacles which oppose them. If you struggle against them, if you attempt to repress their activity, they stand the shock with a vigor and repel it with an elastic force of which persons the most nervous would hardly be capable.

Solid and calm strength manifests itself by a well-proportioned stature, (rather too short than too tall), a thick nape, broad shoulders, a face rather bony than fleshy, even in a state of perfect health.

I add some other signs which announce this species of strength:—

A forehead short, compact, and even knotted; frontal sinuses well-marked, not too prominent, and which are entirely smooth in the middle, or with deep incisions, but whose cavity ought not to be limited to a simple flattening of the surface; eyebrows bushy and close, placed horizontally, and which approach near the eyes; sunken eyes, and a determined look; a nose broad, firm, bony near the root; contours straight and angular; the hair of the head and that of the beard short, curled, and thick; small teeth, somewhat broad and well set; close lips, and the under one jutting out, rather than drawn in; a broad, prominent chin; the occipital bone knotty and projecting; a bass voice; a firm step.

The signs of weakness given by Lavater are as follow:—

> The following indications are those of weakness : A tall stature with-ut *proportion ;* much flesh and little bone ; tension of the muscles ; a timid ountenance ; a flabby skin ; the contours of the forehead and of the nose ounded, blunted, and, above all, *hollowed ;* a little nose and small nostrils ; short and retreating chin ; a long, cylindrical neck ; a motion either very apid or very slow, but, in either case, no *firmness* of step ; a gloomy look ; epressed eyelids ; an open mouth ; long, yellowish or greenish teeth ; a ong jaw, with a joint close to the ear ; the flesh white ; fair, tender, and ong hair ; a shrill voice.*

My own observation indorses all of these signs.

Signs of weakness in the face are related to and point out efects of *bodily organization*, as, for example, a small nose and inched nostrils show that poor ventilation and compression of the aist, continued through several generations, are the cause of these acial appearances.

Pimples and blotches on the face are the result of dietetic ins of the one exhibiting them, or of his ancestors, or both him-elf and those preceding him. One of the most prolific causes of defectively-organized liver and small, weak lungs is compression f the waist; and this compression, no matter how moderate, if abitual and practiced by one generation after another, as observed n all so-called civilized communities, will in time result in facial gliness, and its effects are shown by a small nose, pinched nostrils; allow, or leaden, or pallid complexion; dull eyes, hollow cheeks, erpendicular jaws; pimpled, blotched, and discolored skin, and ther facial abnormalities.

These defects appear in both sexes, although compression of e waist is practiced almost entirely by the female sex. The sons s well as the daughters born of a long line of females who have racticed this terrible habit show both in their face and physique e direful effects of a custom which leaves its unmistakable signs pon the body and face. Its influence upon the mind and moral nse are equally apparent, for, as I have shown that mind and ody are a unity, and that physical function and mental and moral culties are closely related, and that the signs of these functions nd faculties are registered in the face and upon the body, so it ust be apparent to the thoughtful that in order to have true eauty, true goodness, real strength of mind, of morals, and of ody, attention must be paid to making every organ and function f the body as nearly perfect as possible.

The exterior of the body is *dependent for its form* upon the ze, shape, and activity of the *interior organs mainly ;* hence, it ill be seen that, in order to have a beautiful exterior,—in order to have a handsome face and a fine bodily organization,—due attention must be given to the condition of the internal organs.

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* Lavater on Physiognomy, edition 1877, London, vol. iv, p. 131 *et seq.*

Exercise in a gymnasium may develop the muscles to a degree, but, unless proper attention is given to diet and rest, to ventilation, etc., real, enduring strength will not result. The *power* comes from *within.*

COMPRESSION OF THE FEMALE WAIST.

Many women entertain the idea that *moderate* compression of the waist is not at all hurtful.

Now, *moderate compression is what produces all these deformities*, for, according to accounts, no woman ever laces tightly;

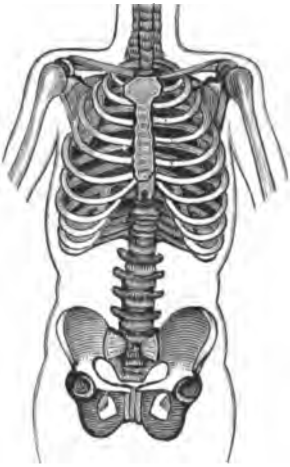

FIG. 339.—NORMAL FEMALE WAIST.

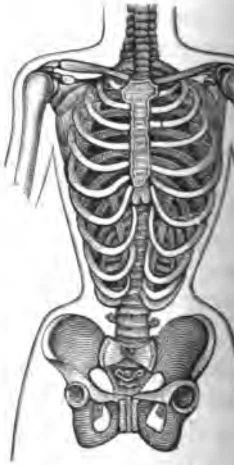

FIG. 340.—ABNORMAL FEMALE WAIST.

and thin, weak, ugly figures and faces are quite numerous in every *civilized* community.

This species of deformity has never been attempted by savage races; indeed, no barbarous race has ever exhibited a variety of deformity at all comparable to this in its disastrous effects upon mind and morals. The compression of the brain by the Flat Head Indians, it is said, does not at all injure the intellect, while we know that lacing the waist not only injures the intellect, but it also produces immorality, disease, and ugliness. Could we have one generation of *mothers* whose waists were not at all deformed, I am convinced we should have a generation of children that would be a wonderful improvement upon the present one, although I think it would require *several* generations of uncorsetted mothers to undo the dreadful effects of their predecessors.

Moderate lacing, as well as tight lacing, induces the following disorders: Liver complaint, dyspepsia, uterine disorders, rush of blood to the head, weakness of the lungs, shortness of breath, and

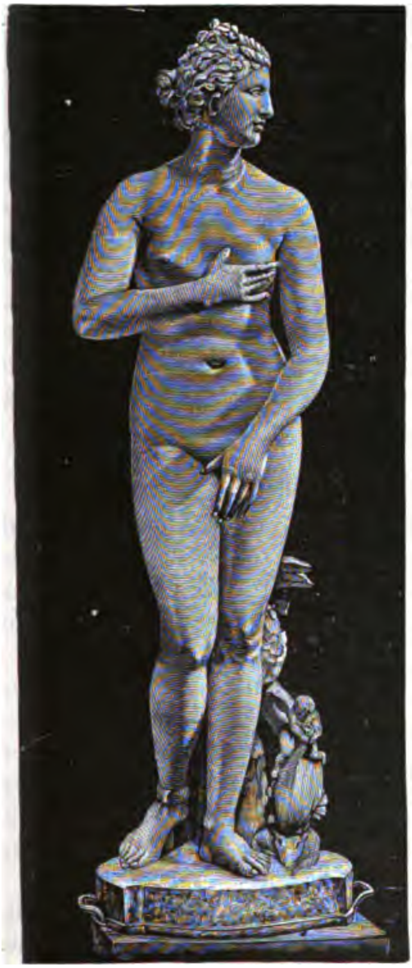

FIG. 341.—THE VENUS DE MEDICI.

This transcendently beautiful statue was executed by Cleomenes, who lived over three hundred years B.C. It is on view at the Uffizi Gallery, Florence. Copies of this statue are to be found in all the academies of art throughout the world, where it is made the basis of design. The fine development of the waist enlightens us greatly as to the *normal* contour and muscular development of the female form. It will be observed that the measurement of the waist is nearly as great as that of the shoulders. A few generations of mothers with such bodily outlines would usher in a race of wonderful beings, far surpassing any known to history; for the high development of the mind and morals depends upon the normal condition of every organ and function. **The mind and body are a unity.**

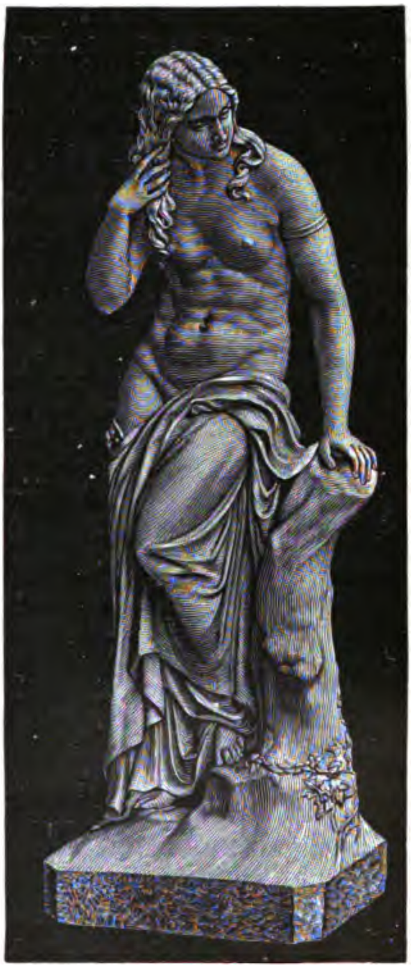

FIG. 342.—EGERIA.

Egeria, one of the goddesses of ancient Rome, discloses a bodily development which is a marvel of strength and beauty. It would be well if our modern goddesses possessed such a development of the waist, body, and limbs. Under a correct regimen there might be large numbers of women thus beautifully developed. In her countenance, attitude, and contours the qualities of female beauty, strength, and loveliness are observed. An analysis and comparison of the several parts of the body will prove a grand lesson in the correct proportion of the female form. Comparison of the girth of the thorax above the bust with that of the waist line just below the hip-joint will give a just idea of the relative size of these two parts; **the waist size will prove to be the larger.**

other disorders. It makes the face sallow, ashen-colored, pimply, and pallid; makes the end of the nose red or purple; creates small nostrils, a concave nose, and shows in the walk and voice, which latter it eventually reduces to a thin, piping, shrill, or nasal tone. A constant pressure upon the interior organs causes them to become more and more constricted in their action, and, as there is not sufficient room in the cavity of the body at the waist for them to act, they press some of the organs downward, and this displacement of organs in woman gives rise to congested conditions, which in turn lead to hysteria and other immoral states. Obstructed circulation prevents the blood from being properly purified in the liver and oxygenated in the lungs, and these two circumstances combined prevent the brain from receiving its share of nutriment, and brain exhaustion, feeble-mindedness, and loss of memory follow. Not only does the subject of this dire practice suffer in her own person all of these terrible consequences, but she transmits all sorts of enfeebled conditions to her offspring, and all these evils ensue from "moderate lacing."

SIGNS OF BEAUTY IN WOMAN.

The illustrations (Figs. 339 and 340) of the normal and abnormal waist of the female figure show to what extent this deformity has gone, while the beautiful illustration of the Venus de Medici shows to what degree of beauty and strength the female figure may attain under right conditions.

Of all the indications of beauty in the female, I rank, first, a proportionate waist; that it to say, a waist of from twenty-four to twenty-six inches for average-sized women in youth: smaller sizes for slight, thin women. The second greatest beauty of woman is a clear and fine skin and a brilliant complexion; the third, a handsome mouth; the fourth, a well-shaped nose; the fifth, bright, well-colored eyes.

If a woman possess a large waist, and does not compress it artificially, she is quite likely to have a fine complexion, as well as a form normally developed. Many other beauties of face, body, mind, and sentiment are sure to follow the development of the physical powers, for the normally-constructed woman will evolve a normal condition of emotion, sentiment, and intellect; hence, I recommend all women who wish to enhance *all their charms* of mind, body, and affection to avoid compressing the waist even *moderately*. A woman who develops her physical powers up to their highest degree, evolves a magnetic power which no wasp-waisted belle can acquire, and which has also the good quality of *permanency*.

HEALTH HINTS.

There's a skin without and a skin within,
A covering skin and a lining skin;
But the skin within is the skin without,
Doubled inward and carried completely throughout.

The palate, the nostrils, the windpipe and throat,
Are all of them lined with this inner coat,
Which through every part is made to extend,
Lungs, liver, and bowels from end to end.

The outside skin is a marvelous plan
For exuding the dregs of the flesh of man;
While the inner extracts from the food and the air
What is needed the waste of the flesh to repair.

Too much brandy, whisky, or gin
Is apt to disorder the skin within;
While, if dirty and dry, the skin without
Refuses to let the sweat come out.

Good people all, have a care of your skin,
Both that without and that within;
To the first give plenty of water and soap,
To the last, little else but water, we hope.

But always be very particular where
You get your water, your food, and your air;
For if these be tainted or rendered impure,
It will have its effect on the blood, be sure.

The food which will ever for you be the best
Is that you like most, and can soonest digest
All unripe fruit and decaying flesh
Beware of, and fish that is not very fresh.

But of all things the most I would have you beware
Of breathing the poison of once-breathed air.
When in bed, whether out or at home you may be,
Always open the windows and let it go free.

With clothing and exercise keep yourselves warm,
And change your clothes quickly if caught in a storm,
For a cold caught by chilling the outside skin
Flies at once to the delicate lining within.

All you who thus kindly take care of your skin,
And attend to its wants without and within,
Need never of cholera feel any fears,
And your skin may last you a hundred years.

JOSEPH POWER.

THE FACIAL FEATURES AS REVELATORS OF STRENGTH AND BEAUTY.

The practical value of scientific physiognomy is nowhere nore apparent than in the exposition it makes of the construction nd conditions of the internal organization of the human body. y the face alone we are able (if we read it scientifically) to disinguish differences in the form, power, and ability of the several isceral organs and systems. Physicians have long understood he value of the pulse as an indicator of health and disease; the tongue, also, discloses both healthy and diseased conditions of the various organs, tissues, and systems hidden from the sight and touch of man; the face, too, has been relied upon to some extent in diagnosing the changes and conditions incident to disease. Yet the face, as an exponent of the form, size, and natural power of the different organs and systems of functions which constitute the organism as a whole, has never been understood until this system presented it. This knowledge, added to an understanding of the facial signs of health and disease, will be of incalculable advantage, particularly to physicians and mothers, and, indeed, to all who are desirous of understanding and conserving their mental and physical powers. I design, in this chapter, to give a few of the prominent signs by which diseased and healthful organs and conditions can be ascertained.

To a thoughtful and observant person the face will seem naturally to be the exponent of the entire organism. It has evolved just in the same way that the various organ systems have developed. From the expressionless faces of the lower animals, the human face has gradually assumed its present degree of perfection of form; as the evolution of the race continues, it is probable that there will be additions and changes of the physiognomy to suit the altered mental and physical conditions which evolution will entail. There has been a constant change and addition of expressions in connection with the evolution of the physical and mental powers. The physiognomies of the most advanced peoples are much *more expressive* than those of the lowest races; the physical powers of the former are more *highly specialized* than those of the latter; in fact, we find that the mental powers keep pace with physiological development all along the line of progressive growth.

The forehead, chin, and defined nose are the latest acquisitions to human physiognomy; none of the lower animals possess either, neither have they the same degree of reason, conscientiousness, and mechanical ability as the developed man; and the signs for these faculties are found in the forehead, chin, and nose.

THE NOSE.

The nose, as has been shown elsewhere, is an indicator of both lungs and heart; and, as man depends upon his breathing and circulatory power for his ability to perform almost all of the useful and great acts of life, the importance of the high development of the nose in regard to size and form must be apparent to the reader; therefore, any peculiarity in this feature which would indicate a deficiency in the action of either the lungs or the heart vould necessarily afford the clue to the grade of mentality of the ossessor of such peculiarity.

When we wish to discover the natural construction of the ungs and heart and the power and vigor of the circulation, as vell as the ability of the lungs to oxygenate the blood, we must ook to the size and shape of the nostrils and nose. If the nostrils e small, the lungs will be small also; and the heart, not receiving large supply of well-oxygenated blood, will not, of course, be as owerful as where the supply is greater. The natural or inherited uality of the individual is useful in estimating the strength or veakness of the internal organs and the power of their functions; his, too, must be taken into account in forming an opinion in egard to their action. The texture, color, and clearness of the kin and eyes, as remarked elsewhere, will assist in arriving at the *uality* of the physiology of the individual.

These characteristics of the natural physiological conditions ive us an understanding of the mental powers, for mind is only a uestion of physiology. Although we have been taught that it is omething superior to the body, we know that it cannot exist apart om it, and cannot be regarded as an entity. Now, when we bserve a person whose nose lies flat, or nearly so, against his face, e know directly that his mental construction is of a very low rder, from lack of the physical assistance which a developed ate of the lungs, heart, and stomach renders. A low, flat nose enotes a low grade of intellect—low, because there is not the roper apparatus for assimilating enough of the constituents of the tmosphere to give noble aspirations and lofty and vigorous thought. hollow or "scooped" nose—that is to say, a nose which is very w at the centre and lies nearly level with the plane of the face— always accompanied by a weak stomach, or a tendency to such eakness. Hollow, retreating eyes and depression of the orbits r surrounding parts disclose a deficiency of power in the muscular ystem. If the bones of the forehead do not project well out over e eyes, the bony system is comparatively small; that is to say, it small in proportion to the other systems in the body. If the gn for Weight be small, the individual will not be able to balance imself so well in walking, climbing, dancing, etc., as where it is und largely developed. But as my design in this chapter is to eat particularly of the facial signs and indications of health and isease, both natural and acquired, as well as of beauty and gliness, I shall pass by the meanings of mental significations in e countenance, and confine myself to the purely physiological pathognomonic aspect of the physiognomy.

If the nostrils are narrow and long, the lungs will correspond in formation. The strength of the lungs will depend upon their inherited quality, *regardless of size*, although the large round lungs are usually the stronger. The strength and power of the lungs may be known by a healthful color of the skin, as well as by a healthful brightness and clearness of the eyes.

In deciding upon possibilities of lung-power, the condition of the digestive system must be taken into account. Where assimilation is easily performed, the lungs will be well supplied with good blood; but if the nostrils are narrow, the skin pale or blue, and the cheeks thin or hollow, great care must be taken to provide the stomach with the most nourishing food, else that dread scourge, consumption, will make its appearance. Persons with weak digestion set little value on food, and often neglect themselves in this respect, and in this way the lungs become impoverished and soon decay. Such persons should make a *business of eating* and *cultivate the appetite* by eating all that the taste calls for. Appetite can be cultivated, just as any other defective function or faculty. Poor feeders do not have so strong a hold upon life, nor are they as capable of friendship, as those who nourish the body well. Consumption can be cured in its first stages by pure air and a dietary suited to the individual. *Medicine cannot cure it.* It may sometimes mitigate the severity of the cough, but medicine cannot supply good, rich blood in the right proportions. Nothing but good food made into blood, and this blood oxygenated by the purest atmosphere, can replace the diseased and worn-out tissues. Medicine never created either blood or tissue; food and air alone perform this miracle.

Narrow or pinched nostrils are evidence of weak lungs. This formation also shows a sluggish arterial circulation. Weakness of the lungs gives other indications of their inability to perform their office properly; a pale, bluish cast of the skin, with blue or pale lips and nails, arching of the nails over the fingers, sighing and yawning frequently, shortened respiration, narrow and drooping shoulders, and a flat chest, are all symptoms of an imperfect thoracic system.

The thoracic or lung system is dependent upon the normal action of the intestinal system to provide nutrition,—to supply the lungs with a sufficient quantity of blood of a suitable quality to keep them in normal action. If the bowels fail to perform their share of work,—fail to provide suitable materials for the manufacture of blood,—the lungs become impoverished and decay; and the hectic flush denotes an abnormal condition of the intestinal system, and show that the lungs have not received their right proportion of good blood to supply their necessities.

THE CHIN, CHEEKS, AND LIPS.

Physicians in all ages have understood many signs of disease and health as shown by the various expressions and changes of the human face. Hippocrates and Galen, the most ancient medical writers, have left us some opinions in regard to signs of diseases which they had observed. Hippocrates tells us that it is a bad symptom

> When the eyes of the patient shun the light, when they begin to squint, when one appears smaller than the other, when the white begins to redden, the arteries to grow black, to swell, or to disappear in an extraordinary manner;

And, he adds:—

> The more the posture of the patient approaches that which was habitual to him in a state of health, the less the danger.

The natural predisposition to many diseases can be known by the peculiarities of facial construction. With this knowledge once gained, the individual will be able to ward off disease by using such precautionary measures as hygienic law dictates. All *hollows* in the countenance denote weakness. If these hollows are natural, the defect is constitutional; if temporary, then they are acquired, and may be easily remedied. A small, narrow, retreating chin, or one which hollows inward near the under lip, discloses constitutional weakness of the kidneys. Hollow cheeks in the lower part show weak digestion, or poor assimilative capacity. Hollow places in front of the ear-opening, where the parotid gland is situated, also exhibit less of assimilative power than where this portion of the face is full. I have observed this gland so emaciated as to form deep wrinkles all over it. This appearance shows that the salivary glands are inactive and small; hence, they cannot secrete and supply as much saliva as is necessary for the perfect insalivation of the food received. A thin, pale, and dry upper lip bears testimony to a weakness in the reproductive system; extreme shortness of the upper lip signifies a tendency to weakness of the spine. Shortness of the septum of the nose, so that it is level with the alæ, or wings, or where it is observed to be shorter than the sides, evinces a predisposition to bilious disorders. Disease of the heart is indicated by a blue skin, fatty cornea of the eye, and red and white spots on the face. I have observed, in severe cases of heart disease, the lips and gums nearly black and the skin as dark as if smeared with ink. Another sign of weak lungs is shown by the hectic flush on the upper part of the cheek, just over the malar bones; this flush is an indication of an abnormal condition of the intestinal system, and is observed just where one sign for the intestinal system is situated.

A weak or defective state of the nutritive system prevents a suitable quantity and proper quality of the blood from being manufactured and sent to the lungs and brain; hence it is that those whose nutritive system is feeble are not only feeble breathers, but they are also feeble thinkers. These two conditions are shown not only by the pallor of the cheeks, or at other times by a flushed condition of them, but the nostrils, in many subjects, are narrow; thus, one defect induces another, and are all registered unmistakably upon the face.

THE COMPLEXION.

The complexion and color of the skin, eyes, and hair have a moral as well as intellectual and physical signification. Where the organism is deficient in the coloring pigment (as I have explained elsewhere) a weakness of the glandular system is usually indicated. This deficiency is shown by milk-white or very light eyes, weak hair, and skin of a pallid hue. This appearance is often accompanied by imperfect vision, deafness, tubercles, a scrofulous diathesis, chlorosis, white swellings, and many other diseased conditions of the glands in various parts of the body.

Now, if the sight or hearing is imperfect, the individual cannot gain correct knowledge of material objects, nor of speech and ideas. Persons with defective senses fail to apprehend the perfect and entire import of what occurs about them; hence, they are liable to take in erroneous or partial understandings of things as they appear. They are, also, by reason of such defective senses, less able to perceive and avoid dangers, and, by reason of their weakness, less able to resist the attacks of disease and more liable to be affected by immoral temptations.

The glandular system being both absorbent and secretory in its nature, assisting by absorption the function of digestion, would fail, in case of defective action, to absorb and convey the materials essential to supply the coloring pigment which the foods extract from the minerals contained in the earth upon which they are grown. The glands would also fail in the chemical action necessary to furnish new tissues and animal heat to the organism. Unless all these operations are perfect, Friendship, for example, cannot exist in its highest state. If the secreting glands—the lymphatics—are too weak to properly perform their office, and fail to absorb the impurities of the system, the body becomes charged with waste matter, and a condition of moral impurity will be the result. Can it be doubted, by any observant or logical person, that a sound and pure body is more capable of morality and integrity than one which is weak, diseased, and impure? There must be equilibrium in the several functions of body and faculties of mind in order to produce harmonious conditions of the moral and mental faculties. The more I investigate the human organism, the more I am convinced that the moral nature is dependent for its purity and strength upon physical conditions, and not upon theories, beliefs, or dogmas, although *cultivation of the moral sense* is necessary for the progress and preservation of the race.

There are many other ways in which the moral and mental faculties are made to suffer by absence of coloring matter. Its deficiency causes people to be suspicious. Lacking the warmth essential for great friendship, they are ever ready to suspect their friends. Ask any very light-eyed person if this is not one of his characteristics. A candid answer will prove this statement. On the other hand, too much coloring pigment induces another class of diseases, and evidences other moral and mental peculiarities and defects. Persons with very dark skin, hair, and eyes are liable to disorders of the biliary system, to fevers, and inflammations. As with great depth of color intense heat is always found, so we must infer that the passions and emotions of very dark races, such as love, jealousy, hatred, revenge, and the like, are more violent, intense, and heated than those of the white races. This fact is well illustrated in the Negro and Indian, as well as in the Spanish, Portuguese, and Celtic races generally, and in the inhabitants of the tropics as well. Sufficient color is a necessity and a preservative of life and health. It also gives tone and strength to the moral and mental faculties. Too little coloring pigment, as I have shown, renders the individual weak morally, mentally, and physically, and induces shortness of life. The knowledge of these facts should be an incentive to the study of hygiene, and the application of its laws to the human organism. Diet suited to each individual, proper exercise and clothing, with sunlight, pure air and water, should be considered as first in the scale of human necessities, and the effort to procure them the first and highest of *religious duties*.

A hollow in the centre of the forehead announces a weakness of that part of the memory which is devoted to the memory of events, facts, incidents, and biography. Memory has as many parts as there are faculties. One may possess an uncommonly good memory for names and not for dates, or a memory for colors and not for forms, a memory for tune and not for figures or time, or a memory for faces and not for names. Many forms of nervous diseases weaken the general memory. Nervous shocks will sometimes impair the memory for names of things, for nouns and not for adjectives and other parts of speech, thus proving that memory has almost infinitesimal subdivisions.

Memory is far more complex and minute in its operations than is generally understood. The learned and ingenious Hooke is said, in his speculations, to have estimated "that the mind is capable of containing three thousand one hundred and fifty-five million seven hundred and sixty thousand ideas." Each of these ideas has its own memory, as a matter of course. I think this estimate underrates rather than overrates the divisions and capacity of memory.

The prevalent custom of the almost universal use of tobacco and alcoholic drinks is not only demoralizing the present generation, but is laying the foundation for a large increase of criminal and defective men and women in the next. Wherever we find the renal or kidney system constitutionally defective we shall be sure to find the moral nature correspondingly weak. The children born of drunkards have often very narrow, retreating chins,—the first stage toward idiocy. Many, if not most, idiots show similar formation, and this indicates enfeebled moral perception and power. The reports of the superintendents for several Homes for Inebriates have fallen under my observation; on comparing them, I find that they are unanimously of the opinion expressed by one of them, Dr. Haynes, of San Francisco, viz., that

> In chronic cases of alcoholism there is a general impairment of all the so-called *moral faculties*, and a corresponding increase of the animal instincts and nature.

He also adds:—

> From our own observation, as a general rule, there seems to be a *change* in the very *morale* of the mind. All continuous mental effort soon becomes difficult or impossible; not only are the perceptions blunted, but the intellectual faculties and reasoning powers are impaired. This tendency, which plays a very important part in the production of premature mental decay, has been attributed chiefly to three causes, viz., hypertrophy of the left ventricle, chronic disease of the kidney, and degeneration of the coats of the cerebral arteries.

Some parts of the memory are affected and weakened by long-continued catarrh; other divisions by nervous shocks. Thus we see the importance of keeping the several parts of the body in repair if we would be mentally qualified to use our highest powers. The general memory, as I have shown, may be strengthened, impaired, or wholly obliterated by certain physical conditions. It may be strengthened by a judicious use of it in the following manner: First, by a slow and deliberate perusal of whatever subject one desires to retain; afterward, by a careful review each night of the events of the day, week, or month. A few moments devoted to this exercise will produce a decided increase in the memorizing capacity. It may also be strengthened by the use of proper foods and the non-use of stimulants in any form. Alcohol and malt liquors, tea, coffee, pepper, and too much animal food all tend to stimulate the mind; but all exalted and stimulated conditions are sure to bring reaction, and this reaction will produce exhaustion of the nerve-forces. Hence, it is apparent that this process called Memory, which, above and beyond all others, has been considered a purely mental function, is dependent for its power and sustenance upon dietetic and stomachic conditions. Another proof of this dependence is given us in the fact that a deficiency of color in the physiognomy—in the skin, hair, and eyes—is evidence of a weak memory. Now, if the stomach were supplied with suitable materials from which the right proportions of color could be extracted, and if the chemical action of the systems of the body which assist the process of digestion and nutrition were normal, and if the body received sufficient sunlight, the memory would be strengthened, and this "mental" process would be correspondingly improved. The habitual use of tobacco assists not only in changing the color of the complexion, but sometimes almost entirely obliterates the memory of colors, as well as other departments of Memory; and this defect is intensified where this habit is hereditary,—where grandfather, father, and son have been habituated to the constant use of this terrible poison. Not only is the color-sense defective and sometimes obliterated, but other physical functions and mental faculties lose their normal power and vigor. The functions of secretion and absorption are obstructed by the presence of nicotine (an active principle in tobacco); hence, the tissues are neither purified of their waste particles nor are they properly rebuilt, in consequence of the lymphatics failing to perform their office. These glands are affected in such manner by the active poison of tobacco that normal action is impossible. The proof of this position will be better understood when it is shown that the color-sense, or memory of colors, is very defective in men,—far more so than in women. This arises principally from the fact that men are generally consumers of tobacco, while women seldom make use of it. The percentage of color-blindness in men, as compared with the same defect in women, is astonishing, and almost surpasses belief. Had we not the statistics of eminent and reputable physicians and scientists on this point it would be incredible.

Now, upon the integrity of the memory of color the lives of thousands of human beings daily depend, as, for example, in comprehending colored signals and lights on steam-ships and railroad trains; and, as these positions are filled exclusively by men, it is apparent that the safety of the traveling community is jeopardized by the use of a narcotic which destroys this most important department of Memory. The *facial signs* of this defect are shown in the livid faces and the colorless, lustreless, and yellow hue of the eyes of those who are under the effect of the poison of tobacco. It impedes respiration, and thus decreases lung and arterial circulation; it weakens the digestion; it impairs the reasoning faculties; it *unmans* the individual, producing a weakness of the moral sense the same as alcohol, and gives rise to timidity and irresolution in principles and practice; and all these defective conditions, when transmitted to posterity, are intensified and increased many degrees. It is one of the greatest obstacles to the march of civilization, inasmuch as society countenances the perpetuation of the race by those who are degraded and vitiated by the use of narcotics. If drunkards and tobacco-consumers were prevented from transmitting their defective organisms the advance of civilization would be most rapid. An enlightened self-interest on the part of governments would seek to prevent such abnormal beings from inflicting their perverted conditions upon the unborn, for I claim that they have rights which justice should accord; but, as I have elsewhere remarked, men stupefied and besotted are not masters of *themselves*, and should be coerced into regarding the rights of others by the strong arm of the law until such time as they become reasoning beings.

USE OF STIMULANTS.

The facial signs of the diseased conditions induced by the use of stimulants are almost too well known to need notice here, but, as they are strong and convincing proof that all bodily or functional conditions are registered in the face, I will state some of them. The reader will have no difficulty in verifying these signs, for they are to be seen in every grade and phase of society. Bloodshot eyes, the white of the eyes turned yellow; full, puffed, and swollen cheeks, particularly of the lower part, near the mouth; puffed appearance under the eyes; sunken eyes; inflamed condition of the entire countenance, but particularly of the cheeks, where the signs for digestion and the intestinal system are located, thus disclosing the inflamed and abnormal condition of the digestive apparatus; swollen and purplish-colored nose, exhibiting the perversion and blunting of all those fine qualities, the signs for which are located at the end of the nose. Human Nature, Ideality, Sublimity, Hope, Analysis, Constructiveness, are all vitiated and sometimes wholly obliterated, as we see by the conduct of the drunkard, from long-continued use of alcoholic beverages. In the face of these facts, can any one doubt the reliability of physiognomy as a recorder of bodily conditions? The signs here described show also diseased liver, lungs, heart, kidneys, nerves, and brain, and entire digestive apparatus.

DISEASE OF THE EYES.

The eye shows many pathological changes. If blood-shot, as is often seen in those who are habitual drunkards, it denotes cerebral and intestinal congestion. Where the whites of the eyes are very yellow, long-continued biliary disturbance is indicated. Puffed appearance under the eyes tells of diseased kidneys. A mixed and mottled eye, where spots and specks of yellow, brown, black, and green are found intermingled, invariably denotes scrofulous tendencies, generally pertaining to the reproductive system or the kidneys; usually, both systems are affected where this appearance is observed. Where a large portion of the white of the eye is very perceptible under the retina, while the eye is in its natural position and not cast upward, gluttony or inordinate lust is indicated. A sunken appearance of the orbit of the eye announces a deficient muscular system, as does also a very small eye.

THE FOREHEAD.

The facial sign of healthy and diseased conditions of every feature of the physiognomy has been treated of in this chapter, with the exception of the upper part of the forehead. This part of the face requires no particular investigation as to health and disease. The upper part of the forehead has no movable or soft parts, and it is in those parts where expressions can be observed that diseased conditions are most apparent. The *natural* formation of the forehead, however, denotes tendencies to healthful thought or to sluggish and stupid action, not only of the brain, but of the *functions of the viscera.* A forehead the upper part of which shows a not too abrupt line of inclination from the eyebrows backward discloses a common-sense, mechanical, and rather quick-motioned person. This formation accompanies the osseous and muscular systems and an active liver, hence its practical and mechanical ability. This combination of systems indicates quick, active persons, both in their mental and physical powers, and this quickness results from an active arterial circulation and strong lungs. In this way we get the clue to the construction of the internal viscera simply by the outline of the forehead. Comparative anatomy is infallible in deciding character by form alone, and in this instance, as well as in all the indications in regard to character, we must rely upon comparisons made and proved.

A forehead the upper part of which is very full, and which projects forward and outward from the eyebrows, is evidence of a dreamer, a theorist, a slow, impractical person,—one who must be helped by others or do with little of this world's goods. This formation of the skull belongs, of course, to a body which corresponds in its build to the brain; that is to say, the secretions will all be slow in forming, the lungs relatively small, the arterial circulation consequently not vigorous, and every movement of the body will necessarily be slow and deliberate.

All these differences, and many others, can be predicated by observing just this portion of the face alone, even if the entire body and the rest of the face were shrouded from view. When physiology and anatomy are taught thoroughly in our schools and colleges, the amount of useful knowledge they will render to the public will not be equaled by any other department of science. These studies, added to scientific physiognomy, practically applied, would, in two generations, go farther toward regenerating the world than any system of ethics of which I have knowledge. I hope that those mothers into whose hands this book may fall will commence to teach their children the meanings of the forms, colors, and features of those about them and those with whom they associate; the localizing part of the science and the forms, colors, etc., can be taught to children as easily as geography. The localizing of signs in the face is somewhat similar to descriptive geography and far more interesting. The philosophical or theoretical part is for more mature minds.

If time permits I shall endeavor to write a primary work for school-children. I have been encouraged in this project by the solicitations of many eminent educators. In the meantime parents and teachers can draw the attention of children to the subject by asking them what they think is the meaning of certain forms of the nose, for example; and so on, of other features; and then proceed to explain the meaning of natural formations, such as the arch representing superior power and strength wherever found; the beak of the birds of prey,—the vulture, the condor, etc.,—representing rapacity, love, and power for overcoming, desire to acquire the resources of others, etc. Then take up the meanings of other formations of the nose—the scooped or flat nose, representing weakness; then proceed to the indications and meanings of other features and colors. The majority of children can be thus taught by special effort on the part of parents. My own children have learned a great deal of physiognomy from hearing me discuss the science, without any attempt on my part to teach them, and, when quite young, could select suitable associates and companions by this knowledge.

If physiognomy were taught as a part of our educational curriculum, our children would be able, when they became of marriageable age, to select suitable companions for marriage, both as regards physical powers and mental and moral characteristics, and thus be spared the great unhappiness which falls to the lot of many—I might say of most—married couples. This is the result, mainly, of being unsuitably mated; this unsuitableness, in most instances, is caused by ignorance of the disposition and of the mental and moral character of each other.

The interests of morality, true religion, and true civilization would be enhanced by the practical application of scientific principles to the reproduction of the race. Persons suitably mated—that is to say, harmoniously united in regard to the right combinations of forms and traits—would insure greater perfection in their children than if the whole matter of reproduction were left to chance and ignorance or inharmonious conditions. I cannot conceive of a nobler ambition in a woman than the desire to be the mother of superior or perfected offspring, but the mother alone cannot achieve this result; the father, as well as the mother, must make himself amenable to righteous law—to hygienic law—if this result would be attained. I believe this ambition will be woman's some time in the future, and, by bearing less children and better ones, true progress will ensue. By this method humanity and civilization will advance—the real, genuine civilization; not this wretched, barbarous, unjust, immoral condition of society, which is with such supreme satisfaction denominated "civilization," but a higher, more just, moral, and truly religious grade of development will evolve in the order which the law of evolution or progressive growth dictates. This law can be assisted in its operation by the co-operation of man,—by the exercise of his reason and moral sense; or, it can be retarded by the ignorant and superstitious. The law of evolution can be traced by any observant person who will take time to consider the growth of organized beings, and the progress of tribes, races, nations, and peoples, as recorded in animated nature and historical record.

My idea of civilization would be shown in that condition of humanity which seeks to make the laws of God the great aim of life. By this I mean that the laws of Nature should be practically applied in every department of life,—to the domestic and social relations, to marriage, to hygienic living, and the reproduction of the race, and in all ways that natural law can be applied to elevate the human family. The term "civilization," applied to the semi-barbarous condition from which we are slowly, yet surely, emerging, seems like a grim satire, and would be ludicrous did it not reveal an age of superstition, ignorance, immorality, injustice, and irreligion, from which a knowledge and application of the laws of science can alone free us.

Beautiful faces are those that wear—
It matters little if dark or fair—
Whole-souled honesty printed there.

Beautiful eyes are those that show,
Like crystal panes where heart-fires glow,
Beautiful thoughts that burn below.

Beautiful lips are those whose words
Leap from the earth like songs of birds,
Yet whose utterance prudence girds.

Beautiful hands are those that do
Work that is earnest, and brave, and true,
Moment by moment the long day through.

Beautiful feet are those that go
On kindly ministries to and fro—
Down lowliest ways, if God wills it so.

Beautiful shoulders are those that bear
Ceaseless burdens of homely care
With patient grace and daily prayer.

Beautiful lives are those that bless—
Silent rivers of happiness,
Whose hidden fountains few may guess.

UNKNOWN.

BILATERAL SYMMETRY OF THE FACE.

The variations in the symmetry of the two opposite sides of the human face, as well as in the two sides of all the features, is so constant a factor in physiognomy as to call for special mention in this connection. I do not know whether there exists one human countenance which exhibits *perfect* bilateral symmetry. I have never seen one that did, although I have observed a few that very nearly approximated to that condition.

Neither is it usual for both sides of the nose, the nostrils, the mouth, the eyes, the eyebrows, the chin, the cheeks, the lips, the forehead, the head, or the ears to be alike in form on both sides.

I find that the mouth has usually less variableness in the two sides than the nostrils, while it is most rare to find the two eyes of a given person of the same form or size; the most decided variations seem to occur in the *ears*. These features appear in the majority of cases to be so unlike as to warrant one in placing implicit belief in the statement of many anthropologists, viz., "that the right side resembles the father or his race, and the left side the mother or her relatives or ancestors."

I have paid great attention to the examination of ears, and have observed very closely those of singers and orators most especially, as well as those devoid of these powers. The ears of Patti are very nearly alike in size and form; so also are those of Gerster, but, as a rule, *close observation* will show great *dissimilarity*, not only in the size and outline, but also in the various parts in the pinna, the helix, the antihelix, the concha, the lobe, the tragus, and antitragus. This dissimilarity of the ears is universal, and can be verified by the examination of the ears on any human head. Whether these dissimilarities extend to the ears of animals I do not know, not having taken time for this investigation.

The influences that mold the two sides differently in shape are various; the first arises from *heredity* or the transmission of the ancestral male and female principles of form; another difference proceeds from the diverse manner of using the right and left sides of the body and limbs. Facial irregularities are often caused by masticating with one jaw more than with the other, by habitual squinting of one eye, by raising one brow the most, by peculiar movements of the mouth and lips in conversation, whereby one side of the mouth becomes permanently different from the other; this is a habit often practiced by those with very flexible muscles.

The variations in the congenital form of the two sides of the head are perhaps the most remarkable of all bilateral dissimilarity. A visit to a manufacturing hatter's establishment will well repay the physiognomical investigator, for in the shapes of the patterns of the hats of his customers there will be found a most singular proof of the absence of bilateral symmetry of the *skull*. A certain degree of this diversity is due no doubt to the greater use of one side of the body than of the other, for, as I have shown that all functions and faculties are represented in the brain, it follows logically that the excessive use of one side of the body would result in variations of the side of the brain which corresponded with the side of the body thus used.

Investigation of the relation of body to brain reveals the fact that the *nervous mechanism* of the right side of the body is represented in the *left* side of the brain, and that the left side of the body is represented in the right side of the brain. I have not pursued the investigation of bilateral symmetry with the view of tracing all the ramification of form with function in this direction, but I am convinced that a most fruitful field of physiognomic and physiologic knowledge could be derived from this source.

The careful student of physiognomy should pay great attention to bilateral dissimilarities of the facial features, and endeavor to ascertain the cause in each individual case.

THE THOROUGH-BRED.

The conventional marks of a thorough-bred person are not at all those which Nature records as such. Although to be gentle is one indication of the naturally thorough-bred individual as well as of he who is conventionally such, yet there are certain physiological and anatomical peculiarities of structure and of the physiognomy which the student must comprehend in order to know who is and who is not congenitally thoroughly bred or naturally noble.

Society considers as well-bred the person who understands and practices all the forms and ceremonies appertaining to its functions; who says certain things at certain times in a certain manner; who observes the decrees of fashion, and generally comports himself in a formal manner, in consonance with a written and an unwritten code of what is termed "good society." This species of the thorough-bred does not require much intellect, morality, physical development or perfection for its manifestation. On the contrary, it seeks to eliminate all originality and to reduce its votaries to a "sheepish" condition who are willing to follow a self-appointed "leader." The qualifications of said leader, be it understood, are simply plenty of coin and "cheek;" neither mind, morals, manliness or beauty are required for this position.

The sort of being that Nature stamps as thorough-bred must possess many high traits and a large degree of physical perfection. The face read scientifically will reveal these conditions.

WHAT ARE THE INDICATIONS OF A THOROUH-BRED PERSON?

A congenitally thorough-bred person will exhibit a fine, clear skin; *fine* hair, of either a light brown, a dark brown, a black, a red, or an auburn hue. He should have a bright, clear eye. These factors indicate fine quality. There should, in this class of persons, be an equilibrated development of the five superior systems, viz., the vegetative, the thoracic, the muscular, the osseous, and the brain and nerve systems. This condition of equilibrium produces harmony and a well-proportioned body, and this again shows in the face. A thorough-bred individual may be short or tall, yet not excessively fat nor excessively lean. The facial signs of thorough-breeding are, as before stated, a fine, clear skin; good complexion; bright eyes, neither very large nor excessively small; fine hair, regular teeth, a well-proportioned nose, and large nostrils; well-curved jaws; full, red, and moist lips; a proportionate chin and rounded cheeks; well-rounded ears; a smooth or rich and full voice. A thorough-bred person may belong to the artistic, mechanical, or scientific classes, either appreciatively or executively; he must exhibit both gentleness and spirit, as occasion requires; he must be governed by the law of justice; he must make the comfort of his associates his concern, and do what is *right* in order to enhance their happiness.

The facial indications of those who are not thorough-bred, speaking physiologically, are as follow: A coarse, thick skin; a "muddy" complexion, or one permanently blotched, pimpled, or discolored; dull eyes, very small or very large and bulging; coarse hair, or that which is very light or colorless,—that is to say, of no *decided* hue. I regard very light colored, pallid people as morbid varieties; also those with irregular teeth, a very small or ill-shapen nose, small nostrils, perpendicular jaws, exposed gums, open mouth, receding chin, or one that projects greatly forward, ending in a point; thin, pallid, dry lips; hollow cheeks, flat upper cheeks, ugly or ill-shapen ears; a voice weak, thin, hoarse, shrill or nasal; a long, cylindrical neck; a high, narrow forehead.

The undue development of certain organs and systems of the body induces abnormal conditions, as, for example, an excessive disposition of fatty tissue. When the appetite is voracious, or the nutritive system uncommonly active, too much of the carbonaceous elements of the food are eliminated, or, as it often occurs, too much carbonaceous food, such as white bread, potatoes, etc., is consumed for the needs of the body; the consequence is an excess of fat, which, in many subjects, impedes respiration, prevents activity, and gives a generally uncomfortable feeling. For this condition a spare diet is often prescribed, but as this is felt to be a hardship, and as few who attempt it succeed in continuing it long enough to produce satisfactory results, it is pronounced a failure.

For this class of people there is a very agreeable and sure method of reducing the bulk without reducing strength and without compelling too great a sacrifice of the appetite.

HOW TO REDUCE THE SIZE WITHOUT LOSING STRENGTH.

A diet which will attain this result is easily obtained, and of t the subject can use a quantity sufficient to allay the craving for food.

This diet consists of absolutely *raw* foods, nothing cooked being allowed. This diet, of course, must consist mainly of fruits, nuts, grains, milk, and, when flesh-meat is desired, a Hamburg beefsteak may be partaken of; this steak is raw beef chopped fine and seasoned with onion, salt, pepper, or other condiments; to his may be added raw oysters and clams. Every kind of fruit except apples is allowed; also melons, salads, and vegetables. A small quantity of freshly-cracked grain, about a tablespoonful at a meal, is very strengthening and very delicious after one becomes accustomed to it.

The principle upon which this diet reduces size without decreasing the strength rests upon the fact that the use of water and fire, as in cooking, eliminates the vitality of the food to a great degree; thus a greater quantity of cooked food is desired. It is a well-known fact that when a farmer wishes to fatten his poultry *quickly* he *cooks* their food, and thus they are enabled to consume a greater quantity of the fat-making carbonaceous elements.

This regimen pursued for one year will produce astonishing results. It is a most delicious diet, as I can testify from personal experience.

CHAPTER V.

CHOICE OF VOCATIONS.

THE COMBINATIONS OF FACULTIES FOR TRADES AND PROFESSIONS.

> "Know thyself! This is the source of all wisdom, said the great thinkers of the past, and the sentence was written in golden letters on the temple of the gods. To know himself, Linnæus declared to be the essential indisputable distinction of man above all other creatures. I know, indeed, in study nothing more worthy of free and thoughtful man than the study of himself. For if we look for the purpose of our existence we cannot find it outside ourselves; we are here for our own sake."—KARL ERNST BAER.

> "We generally think according to our formation."—WINKLEMANN.

WHEN a mechanician desires an instrument for a certain purpose, he experiments with the materials at hand and puts in operation the principles of physics which he has learned, and thus the required machine is produced. The mechanism which would move a house is quite unsuited to run a train of cars. On the other hand, a sewing-machine suitable for hemming a piece of muslin would not weave a web, and no intelligent mechanic would attempt the use of these several machines for other than their own purposes.

Since mechanical principles were first understood they have been applied to perfect instruments for the various uses which man requires. In this matter, as well as in many other details of life, man exhibits his observation, judgment, and reason, but here it would seem that his powers came to a stand-still. Where there arises a necessity for selecting a *human machine* for a stated purpose or position, man has no guide which enables him to judge by the form or looks of an individual whether he combine the faculties and capacities which are needed for any particular sort of work. If it be merely a matter of digging the soil or of bearing heavy burdens, any man is competent who has the normal use of his limbs and the requisite muscular development; beyond this men cannot judge, by their looks alone, of the fitness of others for any given position.

It is true that some persons possess large intuitional powers, and can tell by the countenance whether one be honest or capable. Others depend upon their innate sense of feeling, or "instinct;" in other words, they are affected by the attraction or repulsion produced by the magnetism of those near them. This class of persons are generally correct in their estimate of character; that is, in general; but this sense does not include exact details of the character, it *senses* only the general tone, or whether it be harmonious or uncongenial to them. This class *feel*, but do not *see*. They say, with the poet:—

> "I do not like you, Doctor Fell,
> The reason why I cannot tell."

This is the sense which young children and the higher animals use in their intercourse with those about them. In dogs and horses this "instinct," as it is termed, is wonderfully accurate, but of course only extends to the knowledge of the disposition of individuals.

As we emerge from childhood many cares and a variety of studies are put upon us, and reason and perception strengthen; hence they crowd out and take the place of this natural instinct, and then it is that we begin to depend more upon later acquisitions for protection and for our knowledge of character, and we use our *experience* in a larger degree when dealing with our fellows. In this manner natural intuition becomes weakened by disuse; and if no really *scientific knowledge* of character replaces the natural and instinctive comprehension of human nature, the masses of mankind *grope* through life victims to very confused and unintelligent ideas in regard to the looks and characters of their fellows; and as they have no *positive laws* to guide them, they endeavor to put into use venerable saws and sayings,—the offspring of ignorance and superstition,—which have descended from ages of ignorance and superstition, from ages of moral and mental darkness, which we have inherited along with many other ideas equally venerable and equally erroneous.

Now, dogs retain and increase their natural and instinctive comprehension of character, because their powers are not weakened by studies which *draw away* their attention from their particular line of observation and feeling, and extended experience and close and intimate companionship with man intensifies their knowledge of man's character, disposition, and intentions, as every person can testify who has owned and associated with an intelligent animal.

It often occurs that illiterate people comprehend human nature better than those more learned, for the reason that they rely *entirely* upon their observation and experience of people, and, their minds not being crammed with book-learning, they pay more attention to the investigation of the words, manner, and actions of their fellows. Of course only the naturally bright, keen, and curious arrive at exact and conclusive results in their study of human nature. I have been often surprised at the sagacity and knowledge of human nature displayed by some unlettered persons, as well as by some young children.

A knowledge of *scientific physiognomy* is the *only means* in the world which will enable one to gauge one's capacities and qualifications at sight, and estimate one's fitness for the several departments of labor. It is the only science which will aid men and women to wisely select partners in marriage or partners in business. This science well understood will do this, and this fact shows that it should be included in the education of every individual. It is of far more *practical value* than any other science, or a score of merely ornamental studies which consume much valuable time without producing the valuable and important results which proceed from a study of physiognomy.

In order to ascertain to which particular department of labor, whether of art, science, politics, mechanism, or literature, one is best adapted, it is necessary to have some knowledge of the systems of functions and the *combinations* of faculties required for each of these several spheres of action.

If one possess a combination of faculties so decided in their direction as to show in early life as a talent for any given pursuit, *that one* should by all means be pursued. Congenital taste and inclination is Nature's method of indicating the fitness of the individual for a given department of study or labor, and natural taste should be cultivated and developed, and in this work Nature always assists. But it frequently occurs that many do not possess traits which *exactly* and *strongly* indicate the direction or branch of labor to which one is best adapted.

Again, many persons possess a combination of faculties suited to *more than one line of industry.* There arises then in the mind of the subject, and of his parents, an *uncertainty* as to which department of activity he shall be assigned. In this case, as in the former, recourse must be had to a professional physiognomist, unless some friend has become qualified, through the study of this system of physiognomy, to assist the doubting mind. Most persons after studying this system should be able to give *valuable information* on this science—if such individual possess good judgment and observation.

A volume might be written upon every feature and yet much remain untold.

Each face which we meet discloses a combination of faculties different from every other face, hence it is that we must study each face, each feature, and each faculty in the light of its own form and distinct meaning; but we must also pay attention to its *influence upon and relation to* all the other faculties in combination.

Given two faces alike with the exception of a slight difference in the length of the upper lip, the possessor of the longer one (as it denotes Self-esteem) will be self-reliant, dignified, and independent. The owner of the shorter one will be wanting in self-confidence, or sometimes undignified and subject to sudden outbursts of temper,—soon vexed and as soon over it, then profuse in apologies. The difference in this *one feature alone* will make these two otherwise similar faces express an entirely different character.

Again, given two very similar faces (if such thing were possible) the one with large Conscientiousness, the other lacking somewhat this faculty, the former would exhibit in every act of life the presence of Conscientiousness. The work of the former would be more thoroughly done; a true value would be set upon friendship, a just estimate upon the resources and advantages of life; in fact, an appreciation of the *value of all things* would be exhibited, and a consequent practice of justice and manifestation of gratitude for favors received.

The latter, while desirous of enjoying all the good things of this life, would show *no true appreciation of their value*, and hence would make friends without comprehending their merit, and by abusing the privilege of friendship lose them. Such characters cannot value or estimate properly the worth of knowledge, property, honor, love, or friendship, nor rate anything at its true worth, because the fundamental principles of justice, of Conscientiousness, are wanting.

THE METHOD TO PURSUE IN READING CHARACTER.

In commencing to read a character we must first decide upon the *quality*, then the size and form of the features must be considered. *Quality*, *size*, *and form* are the principles to be first considered, next comes the subject of health as showing power, then proportion and color. The largest features dominate and control the smaller, for large features express strong faculties. One error the student must guard against is in computing power by the *size regardless* of the *quality*. If the subject under investigation possess fine quality and large features, then we can predicate a commanding intellect, such, for example, as that of Julius Cæsar, whose portrait is shown in the succeeding chapter. The following from Addison aptly describes this class:—

> Men of the greatest abilities are most fired with ambition, and, on the contrary, mean and narrow minds are the least actuated by it.

We might paraphrase this quotation thus:—

Men of the greatest features are most fired with ambition, and, on the contrary, mean and narrow features disclose the least of it.

It will be thus seen that to endow offspring with a large nose and other features to correspond is to provide them with abilities which in their results benefit the world.

After a due consideration of the dominant factors of character, viz., quality, size, form, proportion, color, and health, an analysis of the several features of the face and of the other various signs of character, such as the voice, the walk, the gesture, the position of the shoulders and feet, the color, size, and form of the hands, fingers, and finger-nails, should be entered upon.

With these directions any observant person who has read the preceding chapters should be able to give a fair delineation of character from the living subject. An attempt to do so from photographs is risky, inasmuch as they rarely present sufficiently *sharp* outlines, or, in some instances, the main points of character are worked out by "retouching" the negative, the lines are very faintly shown, and the wrinkles so decisive of character are usually completely worked out; hence little reliance can be placed upon a photograph unless it be so taken as to give sharp outlines and a truthful delineation of all the minor signs of character.

In order to facilitate the delineation of character I have prepared the following list of the combinations of traits essential in several trades and professions:—

THE COMBINATION OF SYSTEMS AND FACULTIES SUITABLE FOR A HOTEL OR BOARDING-HOUSE KEEPER.

The muscular and brain systems should be supreme, and the vegetative largely represented. The social qualities should be dominant, hence Friendship, Benevolence, Approbativeness, Alimentiveness, Hospitality, Love of Young, and Mirthfulness should all be strongly defined.

The mental powers essential are Executiveness, Force, Hope, Acquisitiveness, Memory of Events, Form, Size, Language, Order, Time, and Calculation.

A man or woman intending to pursue either of these two branches of industry should possess a high sense of hospitality and its duties. The care of the sick, of children, and of helpless women often fall upon them, and all the laws of honor and of humanity demand consideration from those under whose roof circumstances have placed them; hence a kindly, sympathetic nature is one of the strong factors in the character of a hotel or boarding-house keeper.

Yet benevolence should not be so excessive as to override caution, else frauds and impostors will prevent success.

Individuals with the bony and muscular systems regnant and the brain and vegetative systems well defined also make good hotel-keepers, if the quality be good. Yet the first described are the best adapted by nature to this pursuit.

THE COMBINATION OF SYSTEMS AND FACULTIES REQUIRED FOR A MECHANIC.

This class should exhibit a square, bony form, with a good admixture of the muscular and brain systems, and sufficient of the vegetative powers to give vitality. They should cultivate Economy, Love of Home, Mirthfulness, and Sanativeness. They should possess Force, Form, Size, Weight, Locality, Order, Time, Observation, Calculation, Constructiveness, Imitation, and Acqusitiveness.

The artistic mechanic or artisan requires almost the same combination, with the addition of relatively *more muscle*, and a finer quality of muscle, with larger Ideality, in order to impart taste, beauty, and finish to his work; and, if engaged in the sale as well as the manufacture of his works, large Acquisition would be needed.

Artistic mechanism includes those pursuits which are partly mechanical and partly artistic, such as jewelry, dentistry, telegraphy, photography, etc.

THE COMBINATION OF SYSTEMS AND FACULTIES REQUIRED FOR A PRINTER.

Those who possess the bone and brain systems in excess, also those who exhibit the muscular and brain systems dominant, can make good printers if of fine or average quality. Of course a due admixture of the vegetative system is essential in order to give health and vitality.

Printers should have large Form, Size, Order, Locality, Constructiveness, Calculation, Observation, and a certain degree of Ideality to give neatness and beauty to the ornamental branches; also large Perseverance or Will to hold steadily to their work until completed.

The colors best adapted to this art are the darker, as, for example, black hair and eyes, or dark-blue eyes and brown hair, and a well-colored complexion. Printers should practice gymnastics and get as much fresh air as possible in order to develop health and strength, inasmuch as their business is confining and often pursued in ill-ventilated and unsuitable rooms.

THE SYSTEMS AND FACULTIES ESSENTIAL TO A DRESSMAKER OR DESIGNER OF WOMEN'S FASHIONS.

The woman who would become an expert dressmaker or designer of fashions should have the muscular and brain systems in excess, or the bony and muscular systems dominant, with a good share of the brain and vegetative powers. If with either of these combinations a fine and high quality of the brain and nervous system is present, talent of the "Worth" stamp will be exhibited.

The dress of woman ranks with the fine arts; hence, a good dress-fitter and designer of fashions is an artist. She therefore requires both the mechanical principles of mathematical measurement and ability for artistic draping and coloring; this combines the mechanic and artist.

In order to succeed in this avocation one must have large Form, Size, Color, Ideality, Constructiveness, Calculation, Imitation, and good health.

The *modiste* who employs assistants must possess Executiveness, Self-will, Self-esteem, Approbativeness, Human Nature, Time, Order, and Memory of Events.

THE SYSTEMS AND FACULTIES REQUIRED BY A COOK.

A good, natural cook is a benefactor to the human race. I rank cooking among the highest and finest arts and noblest sciences, for in its highest aspects it is both an art and a science. Every woman and man should understand something about cookery.

Good cooking is the foundation of health, wealth, morality, and domestic happiness and comfort. An art and science of such importance should command the respect of all.

Food well prepared will sometimes overcome a tendency to drink intoxicating liquors, for an ill-prepared meal, or one into which too much salt, pepper, or spice has entered, creates an abnormal thirst, and then it is the poor victim flies to the dram-shop with the view of getting the comfort which his food has denied him. Bad cooking sets up an irritation in the digestive organs, and its poor, ignorant victims fly to stimulants to enable them to get rid of the indigestible mass.

A cook should have a large degree of the vegetative, thoracic, and muscular systems, with sufficient of the brain system to enable them to plan, arrange, and execute large orders for banquets and great occasions. A fine *quality* of the organism gives delicacy of taste and scents. Yet many *apparently* coarse-grained negroes are good cooks. It will be found, upon examination, that such cooks are fine-grained in *their order;* then, too, size counts for a good deal in the domestic signs of character, and negroes have large lips (organs of taste); but among the Caucasian races size and quality are the factors which reveal the good cook. I have known among the latter many delicate-looking women who were excellent cooks, but in these the lips were full, red, and moist, the nose and nostrils relatively large, and the brain and nervous system of a high quality.

A cook should have large Alimentiveness, Bibativeness, Economy, Pneumativeness, Color, Sanativeness, Hospitality, Mirthfulness, Force, Order, Time, Calculation, Approbativeness; and, if he or she combine catering with cooking, Executiveness, Imitation, Ideality, Self-will, Conscience, Locality, and Self-esteem are required.

A cook needs a good deal of time in the preparation of food; hence, if housekeepers expect good cooking they should not put too many burdens upon the cook. Again, good cooks require good materials in order to produce appetizing dishes. It is true that an excellent cook will make plain food taste better than can a poor cook; but nice dishes require the best materials.

When we Republican Americans are willing to place cooking upon the same elevated plane with other fine arts and sciences, and accord to its possessors the same honors that we pay to professors of other arts, we shall find many first-class men and women enter its ranks.

Not until this important class of artists receive in pay, recognition, and appreciation their just dues, shall we have plenty of real good hygienic and scientific artists in our kitchens.

Cooking should be taught in all our public schools, to boys as well as to girls, for this talent is not the exclusive property of either sex, and can be developed to a high degree in those members of both sexes whom Nature has endowed with gustatory talents.

THE COMBINATION OF SYSTEMS AND FACULTIES REQUIRED FOR A FARMER.

Farmers should have a good combination of the bony, muscular, and brain systems, with sufficient of the vegetative to nourish the rest.

They should possess Economy; Love of Young, in order to enjoy the care and rearing of children and animals; good Alimentiveness, Hospitality, Pneumativeness, Sanativeness, Force, Hope, Acquisitiveness; also fair Constructiveness, Self-will, Form, Size, Locality, Time, Order, Calculation, and Reason.

THE COMBINATION OF SYSTEMS AND FACULTIES REQUIRED FOR AN ENGINEER.

Engineers require either the bony, muscular, and brain systems regnant, or the muscular and brain systems dominant, with a good degree of the thoracic and vegetative powers to give vitality. They should possess Conscience, Alimentiveness, Pneumativeness, Color, Sanativeness, Force, Resistance, average Caution, Constructiveness, Executiveness, Self-will, Form, Size, Calculation, Weight, Locality, Time, Order, and Constructiveness, with sufficient Causality and Comparison to understand mechanical principles and their application. Many steam-ship engineers are short, broad, stocky, and very cool and resolute. This muscular and brain build is an excellent one for this position.

THE SYSTEM AND FACULTIES ESSENTIAL TO MERCHANTS.

Men of various combinations and forms may succeed as merchants if possessed of the faculties and powers suited to the particular branch of commerce undertaken.

A merchant may have the muscular and brain systems dominant, or the bone, brain, and muscular powers supreme, with a good degree of the thoracic to give vigor and enterprise; also, with sufficient of the vegetative to strengthen all the powers.

For large commercial enterprises a fine quality and large size of the brain is necessary, together with such assistance from the thoracic, digestive, and muscular systems as will sustain great and prolonged mental efforts. Large size of the features and relative width of the face are usually found associated in the physiognomies of great merchants, who must possess large Alimentiveness, Conscientiousness, Friendship, Economy, Pneumativeness, Self-esteem, Force, Hope, Sublimity, Human Nature, Ideality, Acquisition, Caution, Constructiveness, Executiveness, Self-will, Size, Form, Observation, Memory of Events, Locality, Time, Order, Calculation, and large reasoning powers.

In giving the following delineations of character I am obliged to be guided by the engraving. I have obtained the best to be had of each subject. The description might be different in some respects could I read from the original.

The face of Daniel Appleton (Fig. 343), the founder of the great publishing-house of D. Appleton & Co., New York, is a fine illustration of the best class of merchants. Fig. 344 is the portrait of John Wanamaker, eminent merchant of Philadelphia and ex-Postmaster-General of the United States.

THE SYSTEMS AND FACULTIES REQUIRED FOR A SPECULATOR.

The speculator may possess the muscular as the dominant or one of the superior systems. This enables him to change and shift with care and facility, for steadfastness is not a trait by which the speculator succeeds; he requires a keen, penetrating mind, and a strong commercial instinct. Hence, *circularly* built men are best adapted to this department of commerce, and it will be found upon examination that this peculiar formation has succeeded in speculative schemes. Many of this class are characterized by cu hair, which is yet another indication of the circuloid-muscu commercial individual. The speculator does not require lar Conscientiousness or Firmness, but does need Alimentivene Mirthfulness, Approbativeness; a fair share of Friendship a Amativeness; small Self-esteem and Modesty; large Force a Secretiveness; a good share of Hope; a very large degree Agreeability, Human Nature, and Acquisitiveness; consider Credenciveness, to enable him to believe in and promote wonder

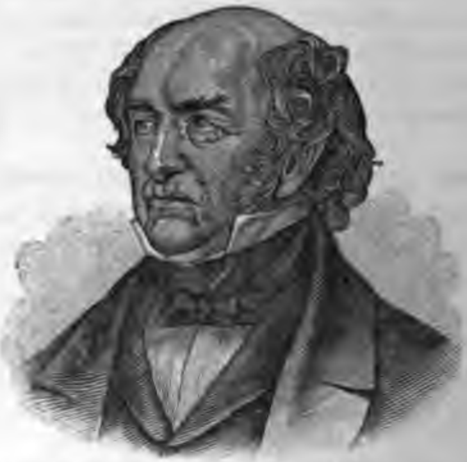

FIG. 343.—DANIEL APPLETON. (MERCHANT AND PUBLISHER.)

The physiognomy of Daniel Appleton shows the brain and bony systems dominant, with the muscular and thoracic systems subdominant; a fine degree of the vegitative powers is also evident. The outline of the nose alone would decide in favor of high Quality, for such a shaped nose is the evolutionary outcome of high organization. In the chin we see Conscientiousness and Firmness most decided. Love of Home, Patriotism, and Benevolence are large. The signs for other domestic and social faculties are prominent, such as Love of Young, Mirth, Approbation, Alimentiveness, Hospitality, Friendship, and Sanativeness. Self-esteem is only average; Modesty, conspicuous. Color is normal. The nose is long, showing Caution; broad and high, denoting Pneumativeness [he was a profound *breather*]; the width shows breadth of mind; the point is very elaborate. The ear is large. The signs in the nose for Analysis, Mental Imitation, Sublimity, Ideality, Human Nature, Acquisition, Construction, Veneration, Executiveness, and Self-will are all large. Observation and Locality are well developed; Credenciveness, small; Calculation, excellent; Form, Size, and Language, most decided; Time and Order, large; Memory of Events, Reason, and Intuition are pre-eminent. Altogether, the physiognomy of a high-minded, able man and successful merchant.

schemes and plans, and enable him to show *others* the "millions that are in it," and that are to be had by just investing a "paltry few hundred dollars." The speculator requires considerable Executiveness, Self-will, Observation, Memory of Events, Calculation, Language, and Reason; altogether, a combination which produces an agreeable, pliant, versatile, sociable, quick-witted disposition. The portrait of P. T. Barnum illustrates the character of one of the most successful speculative commercialists of this age.

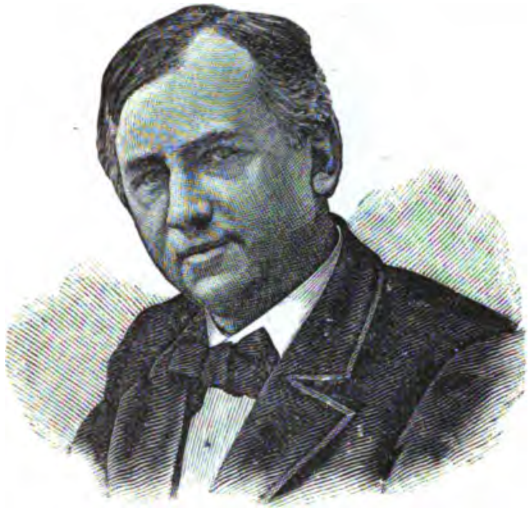

FIG. 844.—JOHN WANAMAKER. (MERCHANT AND STATESMAN.)

The Quality of this subject is of a high grade,—the brain high above the ears and proportionately broad, the nose long and broad, the whole expression kindly, sympathetic, and genial. The brain system dominates; the bony system stands second, the thoracic third, while the muscular and vegetative are about equally developed. In the chin the signs for Firmness and Conscience are well developed, while Love of Home, Patriotism, Mirth, Approbation, Hospitality, Friendship, Love of Young, and Amativeness are well represented. Pneumativeness is large and Color excellent. The signs in the nose are nearly all well defined: observe Sublimity, Ideality, Human Nature, Construction, Acquisition, Veneration, Executiveness Reason, and Self-will. The forms of the eye and eyebrow are noticeable: the form of the eye shows Agreeability, while the inner terminus of the brow denotes large Observation and small Credenciveness; while Prescience is only average. Language is fluent and Calculation very pronounced. Form, Size, Mental Order, Time, and Memory of Events are excellent. Intuition is supreme. The ear, like that of all great commercialists, is large. The hair shows order and neatness without boldness. Mr. Wanamaker is a reformer, to some extent, in business methods.

The chin and the wrinkles upon it, and the hair of this portrait, are corroborative signs of this versatile pursuit.

THE SYSTEMS AND FACULTIES ESSENTIAL FOR A PAINTER.

Among painters who have excelled we find a variety of combinations and diverse forms. Yet most of them possessed—and it is requisite to high art that they should exhibit—the muscular and brain or brain and muscular systems supreme in the order named,—both of high quality. A large endowment of the thoracic system is indispensable, together with sufficient of the bony system to afford the mechanical elements of the art.

The faculties required for a great artist are many, and must be well developed; for a grand artist must be a grand man,—a rounded man,—and able to fill high positions outside of the realm of painting. Such a one was Michael Angelo, whose portrait is here displayed. He was great as a painter, sculptor, and architect, and displayed much literary and poetic skill. Among his greatest works are the frescoes in the Sistine Chapel, "The Last Judgment," and the cupola of St. Peter's, at Rome.

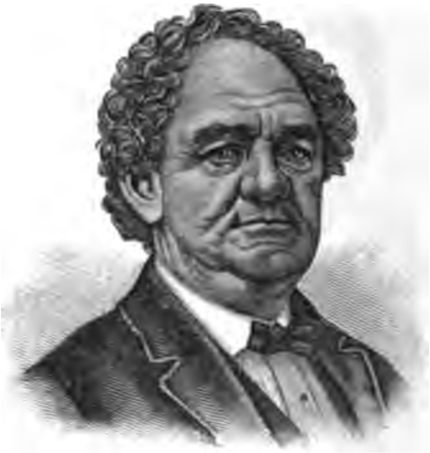

FIG. 345.—PHINEAS T. BARNUM. (SPECULATOR.)

The subject of this sketch is an illustration of the most successful commercial speculator of the age. His physiognomy shows the brain and muscular systems in the ascendant, while the bony system ranks third, and the thoracic and vegetative follow in about equal degrees of development. The hair is curly, showing versatility and imitative ability; the ear, very large and very commercial. The chin does not disclose severe Firmness, yet its width indicates a certain degree of Conscientiousness, which is marred by the oblique wrinkles and imperfectly-curved dimple, thus showing that he is not one of the "rigid righteous." The signs for Love of Home and Patriotism are evident, while Approbativeness, Benevolence, Mirth, Language, Alimentiveness, Hospitality, Friendship, Love of Young, and Sanativeness are all large. Force and Resistance show the will and courage which have enabled him to carry forward his great enterprises. Self-esteem and Modesty are well developed. In the nose, which is broad and relatively short, we see that the signs for Pneumativeness [another deep breather], Sublimity, Ideality, Human Nature, Construction, Acquisition, Veneration, Executiveness, and Self-will are all pronounced. The signs for Form, Size, Weight, Locality, Observation, and Calculation are manifest, while Memory of Events and Practical Reason are excellent.

The painter must possess largely the following faculties: Love of Home, of Young, and of Country; large Alimentiveness, Amativeness, Friendship, Mirth, Approbation, Pneumativeness, Color, Sanativeness; a good degree of Force; large Hope, Mental Imitation, Human Nature, Sublimity, Ideality, Acquisitiveness, Constructiveness; average Executiveness and Veneration; strong Self-will; a fair degree of Credenciveness and Prescience; large Form, Size, Observation, Locality, Weight, Time, Order, Calculation, Intuition, and Reason.

There are large numbers of so-called artists who are mere copyists. This class have not the originality and fertility of the great masters of the art; neither have they their boldness of execution, their wonderful color-sense, and their grand conceptions. Art-copyists do not possess as high a *quality* of organization nor exhibit as grand features as do the original artists.

The physiognomies of the following great modern painters can be studied with profit: Sir Joshua Reynolds, Gainsborough, Greuze, Gerard, Boucher, de Neuville, Corot, Delaroche, Millet, Munkacsy, Millais. The reader has been referred to the physiognomies of the "old masters" in the section devoted to Color.

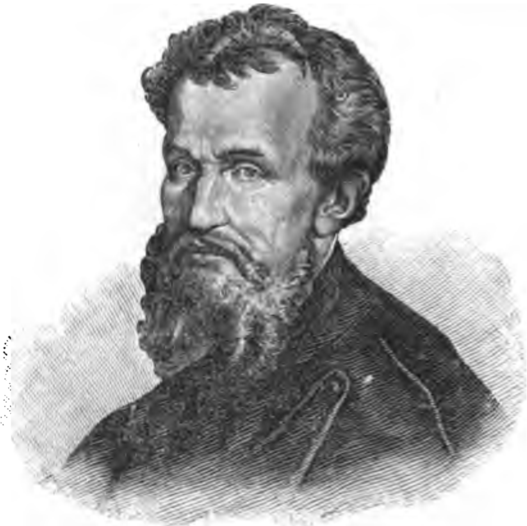

FIG. 346.—MICHAEL ANGELO. (PAINTER, SCULPTOR, WRITER, ARCHITECT.)

To attempt the delineation of so sublime a countenance fills the physiognomist with both awe and wonder. A view of the living countenance of this subject must have been elevating and inspiring, as suggesting the *possibilities* of the race. The Quality is of the highest, showing its supremacy in every feature and outline, as well as by the skin. The brain dominates; it is high, broad, and constructive in form. It presents the principles of both the square and curve in an equal degree. The nose is a wonderful feature. The tip alone would decide the grandeur of his mind. The bridge is broad, but whether broadened by a blow, which broke it, cannot be known. It must originally have been broad to coincide with the other features and the forehead, as well as the character. The ear is very large, the concha, or bell, deep and wide; the beard curly and long, showing great virility; the hair waving and original in appearance. Everything in this portrait announces originality—genius. The chin is hidden, but such a superstructure must possess a foundation of domestic and social powers. The bony formation shows that Conscience and Firmness are large. The lips disclose Benevolence, Wit, Language, Amativeness, and Love of Young. The signs for Alimentiveness, Bibativeness, Sanativeness, and Color are conspicuous. The nose is long, broad, bony, muscular, and high above the plane of the face, thus disclosing the presence of both the scientific and artistic elements of Mind. The point of the nose discloses large Sublimity, Ideality, and Human Nature, while, above, large Constructiveness and Acquisitiveness fill out the sides. Veneration, Executiveness, and Self-will indicate great powers of command. Form, Size, Weight, Locality, Observation, and Calculation are of the highest grade of development. Language is well developed. Time and Mental Order are decided, while Causality, Comparison, Memory of Events, and Intuition reach the highest development.

The portraits of Michael Angelo and Raphael Sanzio, given herewith, illustrate grand characters. All the signs of superior rtistic talent and genius are plainly discernible.

THE SYSTEMS AND FACULTIES ESSENTIAL TO A POET.

Great poets are the most rare of all the artistic minds, and, as only one really grand poet is *needed* in a generation, the supply seems always to equal the demand. Poets require a most peculiar and sensitive quality of the brain and nervous system, and also a fine endowment of the muscular system, in order to feel and express emotion and to construct rhythmically, for these two powers inhere in the muscular system; they must possess a great susceptibility to all sensations and an eye which sweeps the entire compass of natural phenomena. Like the great painters, they must be many-sided, not angular, nor of one idea. They must be in sympathy with every phase of human nature, and intuitively and instinctively divine and feel the joys and sorrows of humanity. They require a fine endowment of the color-sense to give ardor and enthusiasm to

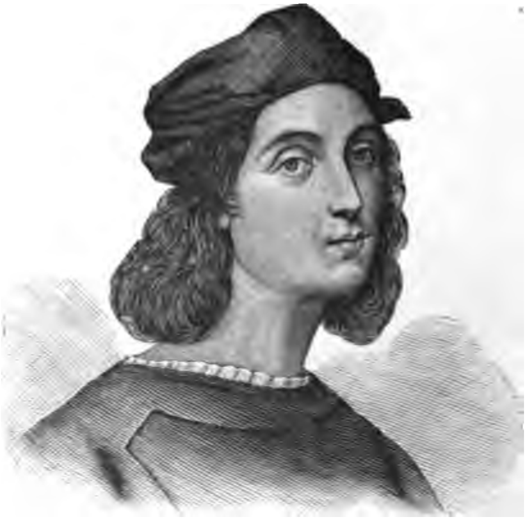

FIG. 347.—RAPHAEL SANZIO. (PAINTER.)

This face, taken in youth, is that of a typical artist. Here are found all the signs of character that show art-capacity of a high order. The curvilinear principle of structure everywhere asserts itself. To a high Quality he adds a rich endowment of *Color*, and his canvases are to be seen to-day in many European galleries gorgeous in their coloring. In this department of art he has, perhaps, never been excelled. The brain and muscular systems are supreme and of a high grade. The curving outline of the jaw indicates dramatic ability, and this power is exhibited in numbers of his pictures, particularly in that of "A Vision of a Knight," now in the National Gallery at London. The chin is artistic and delicate, and discloses the signs for Love of Country and of Home, Conscientiousness, and considerable Firmness. Amativeness, Love of Young, Mirth, and Modesty are quite decided. Friendship, Hospitality, Alimentiveness, Sanativeness, and Pneumativeness are conspicuous. In the nose, which is straight and high, are seen the signs for Ideality, Sublimity, Construction, Acquisition, Veneration, Executiveness, and Self-will quite decided. Form and Size are remarkably developed. Language, most copious and eloquent, is indicated, and Credenciveness and Prescience are conspicuous. Calculation is very large, while Locality, Memory of Events, Intuition, and Artistic Reason make up the physiognomy of an elegant and original artist.

their natures, and to enable them to paint their scenes in gorgeous and glowing colors.

Poets should possess proportion and beauty, and many of them in their youth have exhibited a remarkable beauty of face and form; see, for example, the portraits of Milton, Shakespeare, Tasso, Schiller, Goethe, Burns, Byron, Shelley, Victor Hugo, Mrs. Hemans, L. E. Landon, Lydia Sigourney, Thomas Moore, and other poets of the first rank. A comparison of their faces with their poetry will convince the observer that symmetry, harmony, and proportion of the face and body result in like qualities in their mental offspring.

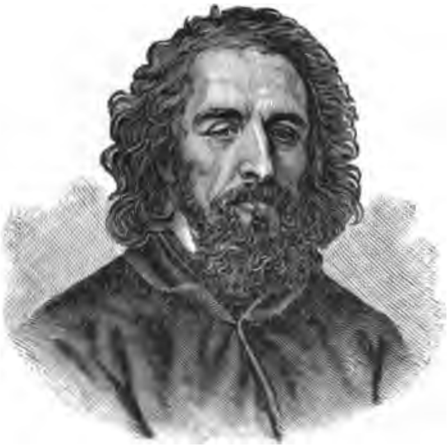

FIG. 348.—ALFRED TENNYSON. (POET-LAUREATE OF ENGLAND.)

In this countenance the two factors of quality and intensity are most apparent. The hair and beard alone would indicate rhythm and originality. The domestic traits are decided, for, although we cannot see their signs on account of the beard, we know that such a superstructure has a rich foundation in the reality of being—the vegetative powers. The brain system is supreme, the bony and muscular systems about equal, while the thoracic comes next. The entire face shows descent from a long line of cultured ancestry. This organism is an art-product purely; every feature announces the care taken by ancestors in the development of refined traits. The chin shows Patriotism and considerable Firmness. Benevolence is apparent, while Self-esteem is not large. The lower lip indicates Wit and fluency; the cheeks reveal Friendship and Hospitality. The nose presents the signs for Hope, Analysis, Mental Imitation, Ideality, Sublimity, Human Nature, Constructiveness, Veneration, Executiveness, and Self-will very large. The eyes show great agreeability and a politic tendency. Locality, Weight, Form, Size, Order, Time, and Calculation are all pronounced, while Memory of Events and Intuition are decided. The intense color of eyes, hair, and complexion gives force, fervor, and vividness to his descriptions. The use of the color-terms in his poems show the presence of a large degree of the color-sense.

Where there exist very peculiar or morbid states of mind it is invariably mirrored in the face, as witness the physiognomy of Dante, with his drooping, melancholy nose and credencive and gloomy expression; these qualities affect (one might say "afflict") his entire works, and thus of all the poets. Burns, with his naturalness, spontaneity, and sympathy, wins all hearts, for his poetry possesses that "touch of Nature which makes the whole world kin." A man who could write "A man 's a man for a' that" and "The Cotter's Saturday Night" shows himself not only one with humanity, but possessed of true Parnassian fire. A poet should possess a strong domestic nature as a foundation for his emotions, sympathies, and sentiments. He must exhibit the signs for Love of Home, Patriotism, Benevolence, Amativeness, Love of Young, Friendship, Color, Hope, Analysis, and Mental Imitation large. He must possess Sublimity to give vastness and grandeur to his descriptions; Ideality to assist imagination; Human Nature to comprehend and portray character; Constructiveness to assi in the shaping of his verse and for aiding in the plot or pla Credenciveness to give faith in the mysterious; Prescience to co nect him with the future; Form and Size to aid in visualizing an mentally depicting the forms and appearances of all objects; La guage most copious and vivid must be his, while Music and Ti must be present in such power as to give rhythm and melody his measures. Above all he must possess large Intuition, so th he may divine or spontaneously sense qualities, conditions, a the characters of all phenomena.

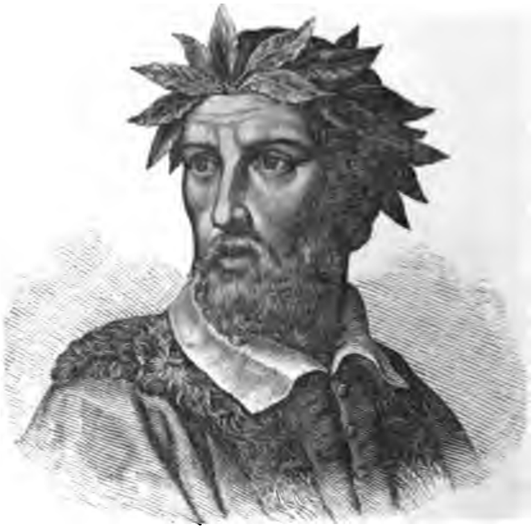

FIG. 349.—TORQUATO TASSO. (EPIC POET OF ITALY.)

The subject herewith presented is that of a man of strong passions and emotions. The muscular and brain systems are dominant,—both of high quality. The color is dense and gave power to the mental processes. The beard is luxuriant and covers an oval chin. The sign of Benevolence is conspicuous, while the upper lip shows the sign for Amativeness well defined, and the eyes corroborate the sensuous aspect of his character. The long, straight, muscular nose denotes the artistic type, for this genius was an artist with his pen, as his great work of "Jerusalem Delivered" testifies. The signs for Mental Imitation, Ideality, Sublimity, Constructiveness, Hman Nature, Acquisitiveness, Veneration, and Self-will are excessive, while Form, Size, Language, Prescience, Calculation, and Locality are strongly delineated. Memory of Events and Intuition are most decided. The face is that of one who would be swayed by the violence of passion and emotion rather than by justice or reason. His biography corroborates this estimate of his dominant powers.

The portraits of two most eminent poets of ancient and modern times are herewith presented, the mediæval poet, Torquato Tasso, an Italian, and Charles Tennyson, a modern English writer; these faces are admirable studies in poetic physiognomy.

THE SYSTEMS AND FACULTIES ESSENTIAL TO A PLAYER.

Among players, as among poets and painters, there exists great diversity of form as well as a great variety of combinations of faculties. To be *truly great* in any of these professions a great intellect is essential. The men and women who have excelled in the higher branches of the drama possess large natures and exhibit high powers in other directions, as in literature, painting, sculpture, science, etc. Many of the most distinguished players of both sexes have given proof of excellent literary, musical, and constructive capacities. The biographies of the leaders in this profession reveal these facts, and their faces, read scientifically, corroborate them.

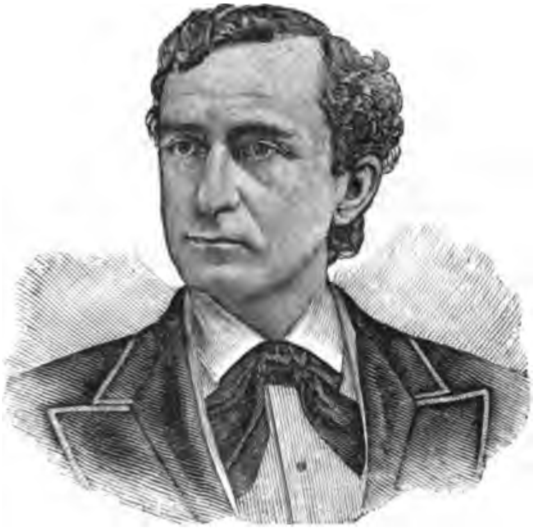

FIG. 850.—EDWIN BOOTH. (AMERICAN TRAGEDIAN.)

I find associated in this subject the brain and muscular systems,—both of high quality and of equal degrees. The color is well defined, the features well proportioned, and the nose expressive of force of character and mental energy. The jaw has the "dramatic curve," the chin is rounded, the eyes full and convex; all these are indications of artistic capacity. Conscientiousness and Firmness are large. The signs for Love of Home, Patriotism, Benevolence, Caution, Alimentiveness, Pneumativeness, Love of Young, Force, Mirth, Approbation, and Self-esteem are in excess. Amativeness is well marked, but showing more in the *eyes* than in the *mouth*, thus revealing that the *sentimental phase* of love dominates the sensual. Friendship is only average. The nose is a noble feature; upon it we see the signs for Ideality, Sublimity, Mental Imitation, Human Nature, Construction, Acquisition, Veneration, Executiveness, Reason, and Self-will all very strongly outlined,—a truly regal feature. Form, Size, Language, Calculation, Observation, Prescience, Locality, Weight, Time, Order, Music, Memory (of all sorts), Reason, and Intuition are all large. The hair is wavy, showing artistic powers and agreeability. Altogether, the face of a great-minded man and actor.

There are several classes of the dramatic profession. Some are suited only to one department of the mimic art, while others, of more versatile genius, possess several varieties.

For convenience we may divide players into three general classes, viz., tragedians, comedians, and comic actors; each of these classes is susceptible of subdivisions, especially the two latter, who may be either creative or imitative, or a mixture of both. The mental equipment of a tragedian must be quite different from that of the comic player. These two classes bear the same relation to each other as the singer and composer. The tragedian the highest class must possess a high organization of both bo and mind, hence it is that we observe in the *personnel* of Rist Salvini, Booth, Modjeska, and other great tragic artists a bo endowed with all the elements of power, strength, and symmetr

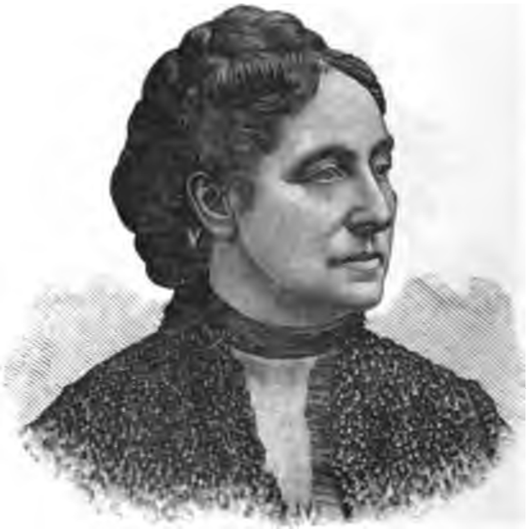

FIG. 851.—ADELAIDE RISTORI. (ITALIAN TRAGEDIENNE.)

The physiognomist, in reading character from photographs, is subject to great disadvantage. The accompanying portrait, taken from a photograph, does scant justice to the splendid physiognomy of Madame Ristori, for one who has met her face to face cannot easily forget the nobility of her expression and the grandeur of her bearing. In this face we find the brain, muscular, and thoracic systems largely developed and of high quality. The osseous system, too, asserts its powers, giving stability to all her acts. The nose is a grand feature; the mouth large, disclosing linguistic power; the eyes full, and the jaws greatly curved; the color dense. The ear is large, and gives evidence of great auditory ability; the bell, or concha, is worthy of notice, and the outline and elaboration as well. In the chin the signs for Firmness, Conscientiousness, Love of Home, and of Country are strongly delineated. In the lips are the signs for Benevolence, Amativeness, Love of Young, and Mirthfulness. The signs for Alimentiveness, Bibativeness, Sanativeness, Pneumativeness, Hospitality, Friendship, Modesty, and Self-esteem are all manifest. In the nose the signs for Hope, Analysis, Mental Imitation, Human Nature, Ideality, Sublimity, Construction, Acquisition, Veneration, Executiveness, and Self-will are conspicuous; while Form, Size, Observation, Time, Order, Prescience, Language, and Locality are preeminent. The forehead is receding, denoting fervor and enthusiasm, as well as progressive tendencies; upon it the signs for Memory of Events, Reason, and Intuition are manifest.

and a face expressive of great beauty, mobility, and noble features. Reference to the face and form of the above-named artists will verify this statement, while their life-work will bear witness also.

The talent for acting has been bestowed by the Creator along with other talents for *use.* Its object should be twofold, viz., amusement and instruction. It *should,* above all, be true to its *highest* capability, and assist in the *elevation* of humanity. This it *can do* if *rightly exhibited.*

Many of the grand impersonations of the great players just mentioned are both instructive and entertaining; and surely, among comedies, what more pure and wholesome pictures of life were ever presented than in the "Old Homestead," by Denman Thompson!

The stage ranks second to the pulpit in its influence, and I hope to live to see it rise to its *highest* powers, and become what it should, a moral and intellectual power. It is its *abuse* that has brought the drama into disrepute with moral people, for at one time in the history of the Church it fostered dramatic representations, as in the ancient "Passion Plays," now revived at Oberammergau.

THE FACULTIES NECESSARY TO A TRAGEDIAN.

This class of artists should possess a fine and large brain system, together with a fine quality of muscle to give flexibility and other qualities, large thoracic powers, and an excellent vegetative system, not only for the purpose of affording the strength and vitality for the arduous duties which appertain to this art, but also for the sake of the *domestic sentiments* which lie at the foundation of all great characters; and the domestic functions inhere in the vegetative system, mainly, assisted by the muscular powers.

The faculties, then, for the tragic player to possess are a fair degree of Conscientiousness, in order to impart thoroughness in depicting noble characteristics; also, Firmness, to hold him perseveringly up to his duties; large Patriotism, Benevolence, Alimentiveness, Amativeness, Love of Young, Mirthfulness, Approbativeness, Friendship, Pneumativeness, Color, Sanativeness, Self-esteem, and Force; a good share of Secretiveness; large Hope, Analysis, Mental Imitation, Sublimity, Ideality, Human Nature, Acquisition, Construction, Veneration, and Executiveness; strong Self-will, Credenciveness, Form, Size, Observation; Memory of all sorts; Locality and Weight; Language, most fluent with verbal memory; a fair sense of Music and Rhythm; and Time, Order, Reason, and large Intuition. It will be seen by the above how well developed and how highly organized must be the mind of a great tragedian or tragedienne.

I give herewith the delineations of the physiognomies of Mad. Adelaide Ristori and Edwin Booth, two of the greatest tragic players.

THE SYSTEMS AND FACULTIES ESSENTIAL TO A COMEDIAN.

A comedian of the first rank must possess high artistic qualities and a many-sided nature. He must be adaptable and keenly apprehensive. He requires a very sensitive brain and a nervous system of fine quality, together with a large endowment and fine degree of muscle, an excellent thoracic development, and a good share of the vegetative system, to give power to the domestic and social sentiments and to afford the nutrition essential to his arduous labors.

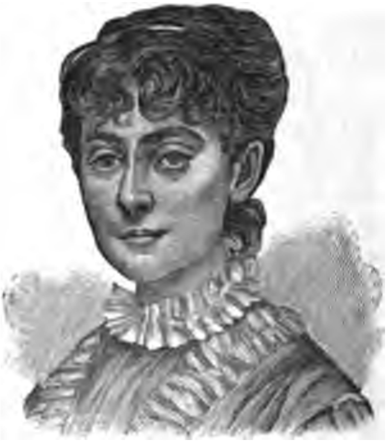

FIG. 852.—BLANCHE BARRETTA. (COMEDIENNE, MEMBER OF THE COMEDIE FRANÇAISE, PARIS.)

The graver's art cannot do justice to the beautiful and talented face of Mdlle. Barretta. Not until we have trained physiognomical artists shall we be able to present the readers of physiognomy with a real "counterfeit presentment" of any living being. In this portrait we see the supremacy of the muscular and brain systems. A prevalence of the *curve* in all the features denotes artistic powers. The chin is dramatically oval, the eyes convex, the brows curved, the nose straight in its outline, the ear rounded, the hair wavy. In the chin are the signs for Conscience, Firmness, Patriotism, and Love of Home, quite apparent; Benevolence, Amativeness, Love of Young, Mirth, and Language, in the lips and mouth. Imitation is shown by the shortness and outward curving of the upper lip; Approbativeness and Friendship, in the cheeks. In the nose the signs for Hope, Analysis, Mental Imitation, Ideality, Sublimity, Constructiveness, Acquisition, Veneration, and Self-will are all conspicuous. Form, Size, and Observation are large, while Prescience is marked. The nose indicates what the forehead would reveal were it not covered by hair. We read there Memory of Events and Artistic Reason. In the bright, wide-open eyes we observe fluency of Language, Verbal Memory, Intuition, and a highly emotional capacity. The color of the eyes, hair, and complexion tells us that the color-sense is highly developed; hence, ardor and enthusiasm are manifested in all her actions and emotions. The mouth denotes Wit of a mirthful nature. The entire expression is that of amiability and intelligence.

A fine endowment of the domestic faculties is highly important, for it is through these traits that he is enabled to exhibit the *softer* emotions, such as Amativeness, Love of Young, Mirthfulness, Approbativeness, Friendship, Patriotism, and Hospitality. The better endowed he is with these traits, the better able is he to express them in the characters which he attempts to portray.

The color-sense should be a ruling power, for it is from this quality that he derives earnestness and enthusiasm; he needs it as well in costuming and in the facial "make-up" for the stage. Self-esteem should not be large, and it is seldom large in comedians. Force is requisite; also a large share of Secretiveness, to enable him to hide his own individuality while personating a character quite foreign to his own. Hope should be well represented in order to give sprightliness and vivacity to his efforts, while Analysis

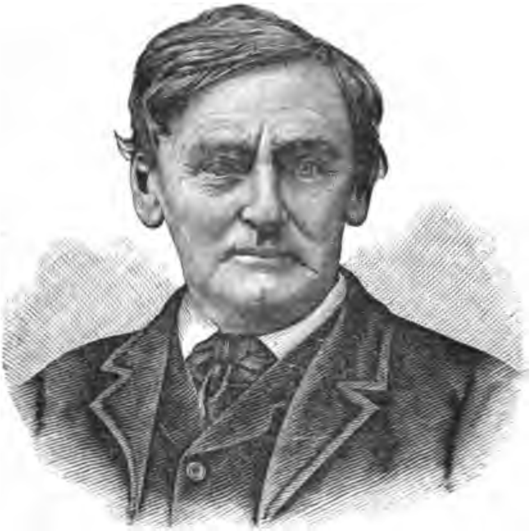

FIG. 353.—JOSEPH JEFFERSON. (COMEDIAN.)

It is a genuine pleasure to a physiognomist to delineate a face so full of talent and power as that of the subject of this sketch. In this individual the brain and nervous system is supreme and of fine quality. The muscular system comes second in the order of development, while the thoracic and osseous are about equal, and the vegetative assists by its powers in sustaining all of the others in combination. The color is well defined in the eyes, hair, and complexion. One scarcely knows which most to admire,—the development of the domestic, the social, or the mental powers. The lower jaw is wonderfully curved, thus disclosing dramatic talent. The chin is dimpled,—an accessory art-sign; it is also broad and long, thus revealing Conscientiousness and indicating Firmness. The signs for Love of Home and of Patriotism are manifest. Benevolence in the lower lip and Language in the mouth are noticeable. Amativeness, Love of Young, Mirthfulness, Modesty, and Imitation are conspicuous in the upper lip. In the lower cheeks Approbation, Alimentiveness, Bibativeness, and Hospitality are well defined. Friendship is large and Sanativeness a ruling quality. The nose is a noble feature, and has all the requirements for talent, viz., Quality, Form, and Size. In the tip we find the indications of Ideality, Sublimity, Analysis, Human Nature, Construction, Acquisition, Veneration, Executiveness, and Self-will. The width between the eyes is phenomenal, showing Form and Size to be supreme; the eyes wide, disclosing Language and emotional capacity; the face very wide across the eyes, giving evidence not only of Sanativeness but of Executiveness, force of character, and breadth of mind, which latter is accentuated by the phenomenal width between the eyes. Locality, Weight, and Calculation are manifest, while Time, Order, Music, Memory of Events, Intuition, and Reason are all exceedingly well developed. The endowment of Wit and Mirth is remarkable, and well expressed in Mr. Jefferson's impersonation of his marvelously fine creation of "Rip Van Winkle." I offer to his genius the homage of an appreciative physiognomist.

should be largely developed that he may have the power to comprehend all that goes to make up his impersonations. Mental Imitation and Human Nature are required in order that he may comprehend the motives and characteristics of various sorts of persons, and then be able to imitate their language, dress, manners, and gestures. Ideality or Imagination is necessary, also a certain degree of Sublimity. Constructiveness is also most essential, for upon it the actor must depend for many of his ideas in regard to the *plan* and scope of a play, as well as to assist him in costuming, etc. A great deal of Self-will must be had in order to *hold* a character *strongly* through the long acts of a play, and also to assist the spontaneous outbursts of passion which many plays require. A fair amount of Credenciveness is needed to comprehend and interpret the awful and wonderful aspects of human nature. Form and Size assist in many ways: they aid verbal memory, also the memory of gestures, attitudes, and the draping and arrangement of the costume, the hair, etc. Locality is a prime necessity; Weight, also, to assist in the pitch of the voice and the force of the intonations and expression.

Language, most copious, is a talent of high importance to the player. Music and Time must be had, while Artistic Judgment and Intuition must be well developed to enable him to "divine" and express the fullness and entirety of those diverse characters which he is called upon to impersonate.

This analysis shows how many talents are requisite to the mental and bodily make-up of a first-class comedian or comedienne. Many comedians exhibit talents of a high order outside of the dramatic profession, as in the several arts, literature, sculpture, and even in science. Joseph Jefferson, whose portrait is herewith given, possesses literary ability of a high order. Henry Edwards, another noted comedian, has achieved success as a naturalist and author. Many of the talents useful to a player are the same that are required for literary pursuits, such, for example, as Ideality, Analysis, Mental Imitation, Human Nature, Constructiveness, Form, Size, Verbal Memory, Language, and Intuition. Most of these are the faculties which the sculptor and painter exhibit in their vocations.

Fine manners, wit, and all sorts of accomplishments are useful to the player, and he will do wisely and add greatly to his success if he pursue the study of them industriously. He must study music, dancing, elocution, fencing, the use and nature of cosmetics, and the arts of dress, with a knowledge of historic costuming, if he would excel. All these graces, added to a natural qualification for this branch of art, should bring wealth and fame.

THE SYSTEMS AND FACULTIES ESSENTIAL TO A SOCIETY BELLE.

Beauty is not always one of the requirements of a popular society lady, but she must possess tact, charming manners, certain accomplishments, amiability (or its counterfeit, vivacity), and style in dress, manners, and bearing. She must be *au fait* with the existing customs of the society in which she mingles. If to these qualities or a part of them she add beauty, she will become a celebrity. In this rank we may place the celebrated Lady Sidney Morgan, Madame de Pompadour, the Countess of Blessington, Madame de Staël, and Madame Recamier, all of whom are renowned for their success as leaders of the most brilliant society of their era.

The art of conversation of the kind suited to the general mind must be one of the talents of a society belle; she must know how to avoid subjects likely to wound or offend; she must be able to talk of matters light and pleasing or original and interesting; she must have the capacity for remembering the names, faces, and position or rank of persons and where she has met them; she must exhibit a kindly interest in the affairs and welfare of her associates, and must exercise great discrimination in the mingling of her guests.

She should be kind to the needy and charitable in overlooking the foibles of her associates; she should cultivate tact and all accomplishments; she should possess a fund of general information upon art, literature, music, the opera, history, and the drama; she should be a patroness of charities and busy in church affairs; she should seek the acquaintance of all eminent in literature and influential in politics and in society; she should cultivate a memory for faces, names of persons, and the localities from whence they came, and remember where she has met them.

The elegant figure of Madame Recamier, one of the most amiable and beautiful women of the Imperial Court of France, is a specimen of a most brilliant and successful society belle.

THE SYSTEMS AND FACULTIES NECESSARY FOR AN OPERA-SINGER.

Opera-singers, both male and female, require, first, great good health; second, a strong and symmetrical physique. The muscular and nervous systems should be supreme, with sufficient of the brain system to aid the intelligent rendering of character. The thoracic system should be one of the superior systems, and the abdominal powers strongly developed; particularly should the diaphragm be powerful. Among the great opera-singers we find no wasp-waisted subjects; hence Nature has free play, and these song-birds are able to give forth the most spontaneous, sonorous, mellifluous, and prolonged efforts. The greatest of lyric artists, such as Grisi, Persiani, Patti, Nillson, Gerster, Frau Materna, and others have a beautifully developed muscular physique, expressive

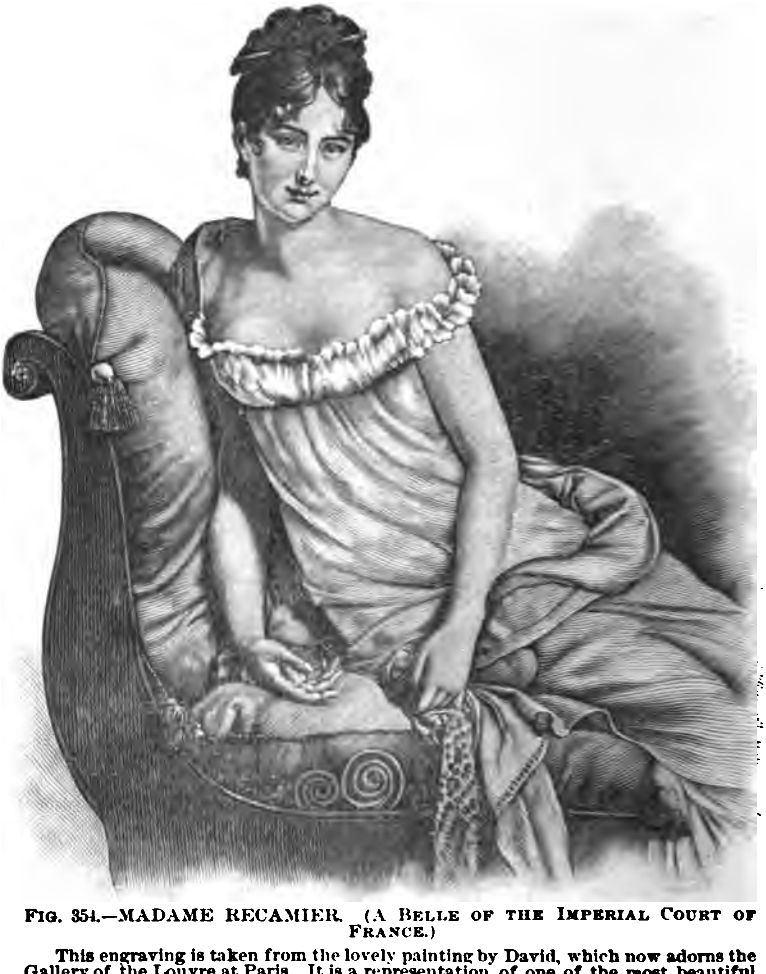

Fig. 354.—MADAME RECAMIER. (A Belle of the Imperial Court of France.)

This engraving is taken from the lovely painting by David, which now adorns the Gallery of the Louvre at Paris. It is a representation of one of the most beautiful women of modern times. Her beauty was equaled by her elegant manners, kindness of heart, and equable disposition. Could Michael Angelo have seen this charming creature he would have dedicated his celebrated line to her,—"The might of one fair face sublimes my love." In this subject the brain and nervous system is supreme; the muscular powers rank next and are of the finest quality. The lovely oval of the jaw and chin and the rounded contours of the arms and joints reveal the presence of the muscular system. The face has an expression of amiability, vivacity, and elegance. The entire countenance proves the supremacy of the æsthetic mind. The signs for Conscience and Firmness are normal. Benevolence, Hospitality, Approbation, Friendship, Love of Young, and Amativeness are well defined. The upper lip is short and curved outwardly,—another artistic indication. The nose is long and straight, the tip developed at the signs for Ideality, Sublimity, Mental Imitation, and Constructiveness. Veneration and Self-will are well represented; so, also, are Form, Size, Observation, Language, and Color. The forehead discloses Memory and Artistic Reason and Judgment. The eyes are curved and express Agreeability. The attitude is expressive of the grace, freedom, simplicity, and *abandon* of childhood, and the countenance is sparkling and intelligent.

face, large bright eyes, arched brows, curved jaw, and other muscular signs.

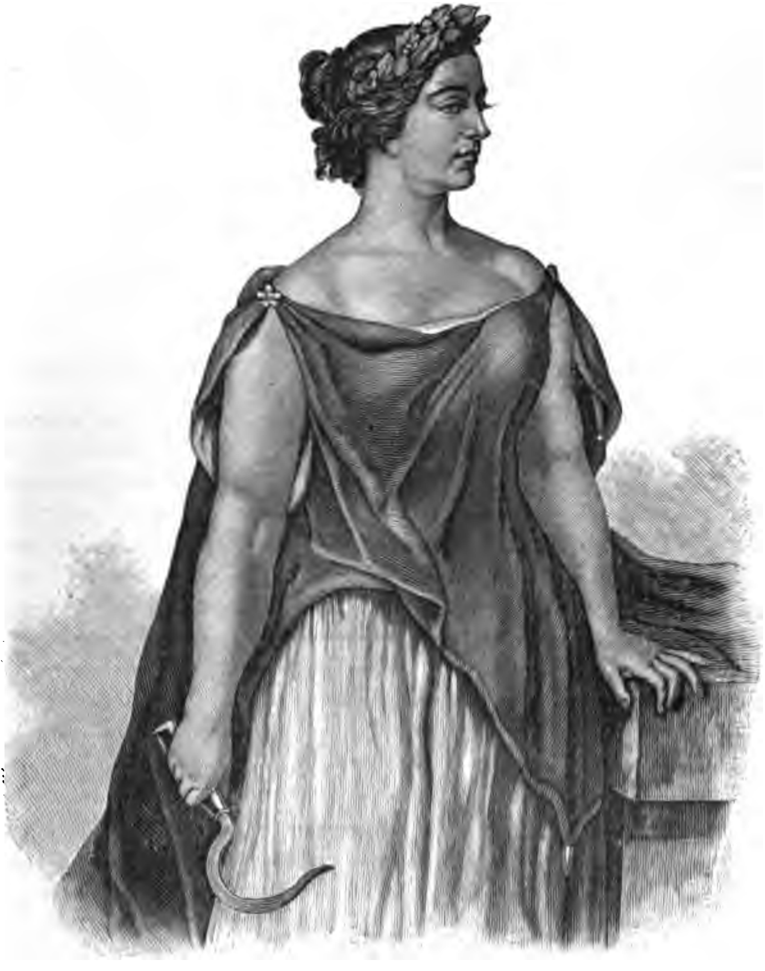

FIG. 355.—GIULIA GRISI. (OPERA-SINGER.)

The noble figure and beautiful face of Grisi fills the mind of the physiognomist with enthusiasm. Not only does the beauty of the face arouse one's feelings, but the sight of so grand a bodily development in a woman affords the highest satisfaction. The attitude of the body, the form of the arms and shape of the hands, the development of the thorax and shoulders, the poise of the head, all tell us of a regal woman. The rounded outlines and presence of curves everywhere stamp it as an artistic mind. Quality, color, proportion, and harmonious development all conspire in this glorious organism to produce perfection. The chin and lower jaw are curved, disclosing dramatic powers. The lips are beautifully molded and indicate vocal capacity; the upper lip announces Amativeness, Modesty, Love of Young, Dignity, and Independence. The nose is straight and high, and has all the signs of artistic originality; the signs for Analysis, Mental Imitation, Human Nature, Ideality, Sublimity, Construction, Veneration, Executiveness, and Self-will are conspicuous. The eyes are dark and express fluency. The interciliary space is artistic; the brows are finely curved and disclose æsthetic tastes. The signs for Form, Size, Observation, Memory of Events, and Artistic Reason are all displayed. The length from the tip of the nose to the point of the chin is quite marked; the cheeks and lips are full and altogether indicate musical talent The color of the hair is black, thus affording the fervor and intensity of feeling necessary for the expression of the grand dramatic characters which she portrayed so magnificently upon the lyric stage. The whole expression is one of kindliness, sympathy, and artistic genius.

The vegetative system must have a good representation in this class, for the domestic sentiments assist emotion, and emotion is what the true artist must portray. Many of them become very fat,—Alboni and Parepa Rosa, for example.

They make loving wives and mothers and warm friends. In disposition they are social and domestic, and have all of the artistic love of color, form, display, and sensation, and exhibit the most sensuous tastes. They must possess large vocal ability, Hope, Mental Imitation, Ideality, Sublimity (for the tragic rôles), Human Nature, Constructiveness, Self-will, Form, Size, Music, Time, and Intuition.

Herewith I present the magnificent figure of Giulia Grisi, one of the most gifted and beautiful of lyric artists.

THE SYSTEMS AND FACULTIES REQUISITE FOR A MUSICAL COMPOSER.

Musical composers are of many diverse combinations of systems and faculties. It is this diversity of traits which produces such great variety of style in music. The combination of faculties which could produce the solemn and magnificent "Stabat Mater," of Rossini, for example, would be quite unlike that which would compose the lightsome strains of the "Orphee aux Enfers," or "La Belle Helene," of Offenbach. Thus we see that as great variety and diversity of character and mental and bodily endowments are required for the several sorts of musical composers as are needed to express the varied kinds of literature or art. So true it is that man is competent only to express in his works those principles which are the ruling ones in his own organism.

The musical reader will recognize these distinctions in the individuality of musical composers by the entire dissimilarity of their productions; and those who are skilled in music recognize the particular "style" of each composer as it is played or sung. Although he may never have heard the composition in question, he recognizes it as he does the personal appearance of the several composers, viz., by the peculiarities of their facial features; by their voice, their walk, their attitude and gestures; for the music of each individual is as markedly diverse as are their bodily and mental structures.

Let the student place before him the portraits of a number of musical *maestros* who are very differently constituted, and then, after making a physiognomical delineation of their character, let him listen to their several compositions, and he will become convinced that man is best capable of reproducing in his works the principles which are the more strongly represented within him.

If one will place side by side the portraits of Handel and von Weber, then those of Rossini and Schubert, also those of Wagner and Beethoven, he will certainly find that the facial characteristics of each are representative of their peculiar style in compositions.

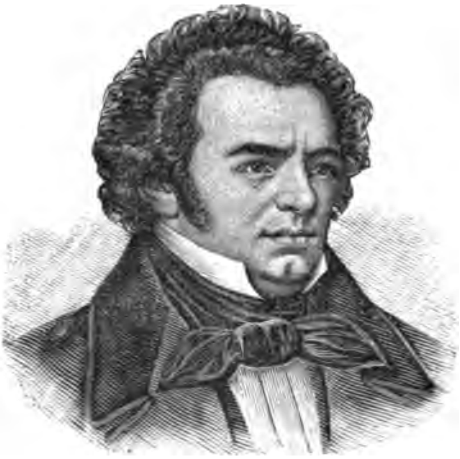

Fig. 356.—FRANZ SCHUBERT. (Musical Composer.)

The face of Schubert offers a most striking contrast to that of Wagner. In this countenance we observe the combination of round bones with round muscles, which expresses beauty, talent, and sensuousness. The wavy hair, curvilinear features, and dimpled chin announce quite another type of character than that of Wagner. There is much less of the bold and severe, but more of the softer traits, discernible in this face, yet it is none the less original in its expression. The entire structure, including the hair, is built upon a system of curves. The brain is dominant and of very fine quality; the muscular system ranks second, the thoracic third, and the *rounded* osseous system follows in the order of development. The chin is most completely expressive of the artist: the *round dimples* give a clue to the *entire* man. A love of the beautiful in the opposite sex, voluptuousness, creative or dramatic talent, and generosity are the characteristics revealed by the rounded, curved jaw and deep, round dimple. In the lower lip the signs for Love of Home, Patriotism, and Benevolence are very apparent. In the upper lip Amativeness, Love of Young, and Mirthfulness have set their seal. The mouth tells stories: it is a sensuous and linguistic feature, and speaks of love and social enjoyments,—of "wine, women, and song." In the cheeks Alimentiveness, Bibativeness, Hospitality, Friendship, Sanativeness, and Approbativeness are conspicuous. The color-sense is very decided, as seen in the hair and eyes. The upper lip is an artistic feature, *curving* outwardly, thus indicating Physical Imitation. The nose is broad and muscular, high and broad at the tip. The signs for Ideality, Sublimity, Analysis, Hope, Mental Imitation, Human Nature, Constructiveness, Acquisition, Veneration, and Self-will are all well defined. The superciliary region near the eyes and nose is noteworthy, showing great width between the eyes and depth of the inner angles, indicating both Form, Size, and Prescience in a large degree. The mouth denotes fluent vocality, both of language and melody. Calculation, as in all composers, is most decided, while Weight, Locality, Memory of Events, Time, Music, Order, and Intuition, with Musical Judgment and Reason, make up the physiognomy of one of the great composers of the world. A comparison of his compositions with those of Wagner will give the student all the corroboration of their physiognomic dissimilarity that he desires.

The musical composer must possess a large and rounded nature. He must be a many-sided being in order to express true greatness in rhythm. A fine brain and nervous system, together with an excellent muscular development, is requisite for certain styles of music, such as Mozart's and Schubert's, for example; while, for a bolder, grander, and more severe style, mere love is necessary, as we observe in the faces of Wagner and Beethoven;

or, as we observe in Handel, a large endowment of the vegetative system, along with a fine brain and nervous system, and sufficient admixture of the muscles to afford the sense of rhythm and melody so essential.

The faculties which are necessary are, first, a good share of the domestic and social functions and sentiments, along with which there must be the following mental powers, which can be discovered in the nose of most composers, viz., Analysis, Mental Imitation, Ideality or Imagination, Sublimity, Human Nature, Constructiveness, Acquisition, Veneration, and Self-will. The signs for Form, Size, Weight, Music, Time, Order, Calculation, and Reason must be pre-eminent.

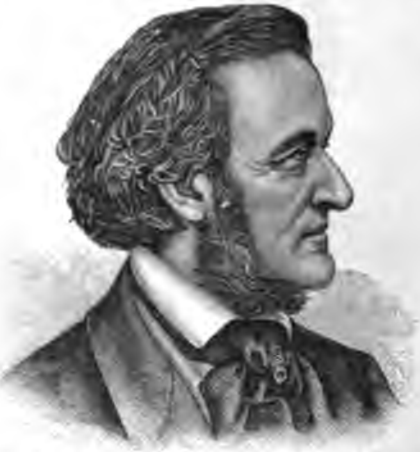

FIG. 357.—RICHARD WAGNER. (MUSICAL COMPOSER.)

This bold and aggressive face announces an original and independent genius, with all the force and power requisite to create a revolution in his own department of art. The brain system is dominant; the bony system takes next place, while the muscular powers follow: all of these are of high quality. The chin shows remarkable Firmness and Conscientiousness of the most severe type, while its extreme forward projection indicates an economical disposition. Love of Home and Patriotism are manifest. Benevolence is not large. Love of Young and Amativeness are well defined. Alimentiveness and Bibativeness are normal. Approbation and Friendship are medium. Self-esteem is only of average development. The nose is a wonderful feature, both in size and outline; it announces great Force, Courage, Resistance, Human Nature, Executiveness, and Pneumativeness. The boldness and originality of his musical compositions required all these traits,—first, to enable him to conceive, and then to force upon the public his singularly novel methods of execution. The color-sense is strongly defined and assists the mental powers. Constructiveness, Sublimity, and Acquisition are prime elements in this character; so, also, are Observation, Weight, Locality, Form, Size, Language, Memory of Events, Music, Time, Order, Calculation, Intuition, and Reason. Altogether, the face of a remarkably strong and individualized man.

The chins of the majority of composers are dimpled; the sign for Amativeness large in all. The hair of most of them is quite different from that of ordinary people, thus showing, by this physiognomic indicator, original powers.

These faculties are possessed in varying degrees by all really good or great musical composers. The several varying degrees of development of brain, bones, muscle, and of the thoracic and vegetative systems can be easily discovered by the observant investigator.

Those in whom the brain system dominates all the other systems will give a more lofty and refined quality of music than he who excels in muscle, as in Schubert, for example, where melodies are of the sensuous order, more nearly; and thus of each peculiar endowment, that system which is dominant gives the key-note to the style of the entire range of each individual's efforts.

Composers must possess a modicum of every sort of time, and that which inheres in each of the five superior systems is necessary for all; hence the thoracic as well as the brain system will be relatively well developed in all musical composers, as well as the brain and nervous, the muscular and osseous.

THE SYSTEMS AND FACULTIES ESSENTIAL TO A SCULPTOR.

A great variety of form and talents are found within the noble guild of sculptors; yet all are characterized by certain similar capacities. This art is really a blending of art and mechanism; we therefore expect to find some of the salient points of both mechanic and artist, with a touch of the scientific as well. A great sculptor is a grand character, and all great sculptors express in the face the nobility and comprehensiveness of their intellect, as witness Michael Angelo, Canova, Thorwaldsen, and others. The capacity to express greatness, whether by the chisel, pen, brush, voice, or by mechanism, is stamped unmistakably upon the face and bodies of those who possess this power. A knowledge of scientific physiognomy is necessary, perhaps, to ascertain the exact quality and power of this talent, although the lives and sentiments of the masters of sculpture are exponents of their innate powers. A truly great being moves, as it were, in an atmosphere of his own creating, far above the strata in which the commonplace crowd dwell; he is thus often misunderstood and misrepresented, for it is essential to the comprehension of character that we have within ourselves a germ, at least, of the traits we would understand. If this capacity be not ours, then it is impossible to comprehend a greater character than our own, for such characters cannot be measured by our limited personal standard.

A great sculptor must possess a fine brain and nervous system, together with an excellent degree of both bone and muscle, for the measurement and manipulation of such solid and hard material as marble requires the most solid tissues; then, too, the principles of Mechanism, of Calculation, of Weight, Size, Form,

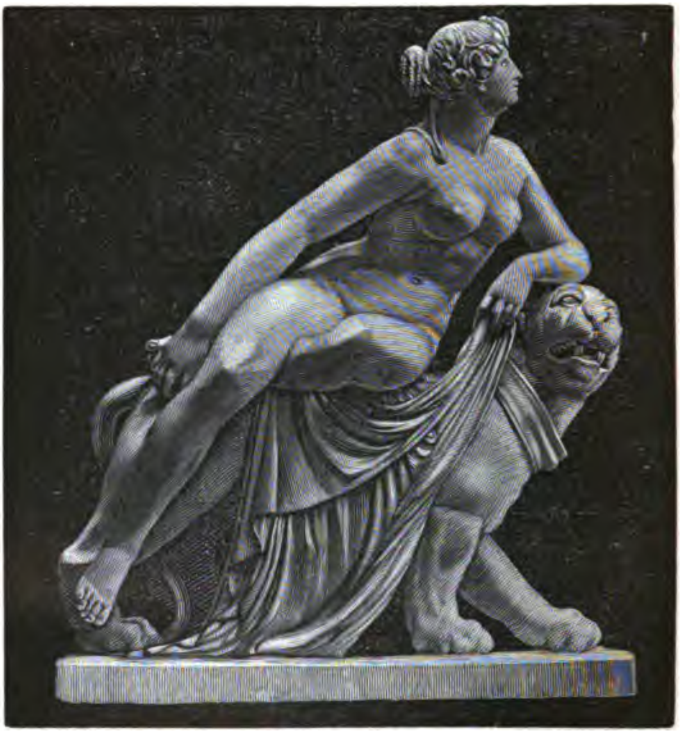

FIG. 358.—ARIADNE.

In viewing the ideal beauties of this subject, one is filled with wonder and delight at the genius which was able to conceive and execute so perfect a figure of woman. This talent is little short of divinity, and bears within itself a heaven-born germ of creative energy. The grace and elegance of the attitude are only equaled by the beautiful outlines and exact details of the whole. One knows not which part most to admire; all is coherent, homogeneous, proportionate, and natural. The freedom and simplicity, the chasteness and delicacy expressed in each limb, feature, and contour entirely divests this angelic form of the slightest tinge of grossness. It would, indeed, be a base mind or a silly prude who could, at sight of this statue, be stirred by feelings other than those of gratitude to God for creating the creator of this noble work, who has wrought out of a block such perfection for the enlightenment of the ages. One generation of women possessed of similar forms would advance the moral sense of the world incalculably, for such women would express *normal powers* of mind and body.

Locality, etc., must be used in transforming a shapeless, chaotic block of marble into a beautiful, life-like statue. The artistic faculties of Sublimity, Ideality, Constructiveness, and Mental Imitation must characterize the sculptor, together with the faculties of Amativeness, Force, Love of Young, Love of Home, Patriotism, Conscientiousness, Firmness, Friendship, Mirthfulness, and other domestic and social powers. Large Reason and Intuition must also be his. If all these powers are inherited in a high degree, and then developed by cultivation, we have a genius of transcendent power, such as Phidias, among the ancients, and Canova, Greenough, Story, Clark, and Miss Hosmer in modern times. The art of the statuary is akin to architecture, and these two professions develop the scientific side of art, for both are based on mathematics primarily, and depend upon Measurements, Weight, Size, Form, and Calculation in a large degree. It is thus shown that high powers and a large and comprehensive mind are essential to the great professor of each art and science. It is true there are many grades in every profession, yet every student will designate, by his works, the rank to which he is entitled. The beautiful figure of Ariadne expresses the grade of artistic rank to which its designer belongs. I am happy in sharing with my readers the pleasure I derive from the contemplation of this sublime ideal of female loveliness and perfection. It is a specimen of the sculptor's skill and powers rarely excelled. It is the work of Danneker.

THE SYSTEMS AND FACULTIES REQUIRED BY A PHYSICIAN.

A physician should, in the first place, be possessed of the highest morality, for no other profession is called upon to exercise this power in so large a degree. The honor and happiness of entire communities are often in his keeping; besides, the physician, like the scientist, must abound in Conscientiousness in order to discern the *truths* of Nature as they exist, without mingling guesswork or speculative theories with his observations.

It is a well-established law of human nature that we cannot give out what we have not in our own organization, nor comprehend fully any principle which is not largely represented in our own organism; therefore, those whose province it is to discover and apply the *laws* and *facts* of *Nature* must possess a large development of Conscientiousness in order to be able to distinguish truths from errors. From this we infer that the bony system should be one of the supreme systems of the physician; bone, being the most stable tissue in the organism, is hence the most reliable. Along with the osseous system there must be also a good endowment of the brain and nervous system to afford sensitiveness and judgment, as well as of the muscular powers to aid in the mechanical parts of surgery. A good degree of the thoracic and vegetative systems are essential to nourish and sustain the mental processes and to assist the domestic and social qualities which the physician needs in order to attract and hold the friendship of his patients. A good share of Firmness is required and is observed in the faces of all good and great physicians. The faculties of Love of Home, Benevolence, Love of Young, and of the opposite sex should be normally developed; so, also, should Alimentiveness, Sanativeness, Pneumativeness, and a good degree of Force and

Resistance. Caution must be exercised and developed where it is deficient. The mental faculties of Analysis and Human Nature must be large, while Constructiveness, Self-will, and an average amount of Executiveness are required. Form, Size, and Locality are most useful with a preponderance of all the *practical* faculties; hence it is that we observe such projection of the eye-bones in all good physicians. Large Observation, Causality, Comparison, Memory of all sorts, together with Time, Order, and Intuition are requisite. The physician who is true to his calling must exhibit for it the greatest devotion and enthusiasm, for physicians, like poets, are born, not made such by a college education alone. They should be ambitious to excel and succeed, and with a desire for progress in the high and holy profession to which Nature has called them.

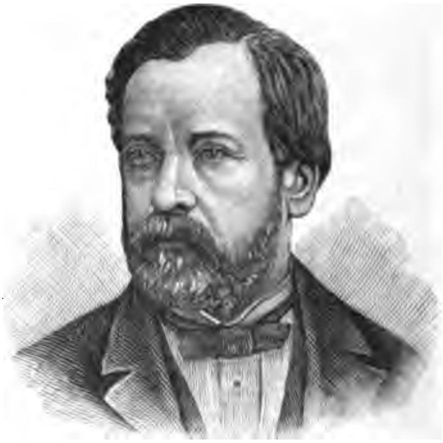

FIG. 359.—M. PASTEUR. (PHYSICIAN AND DISCOVERER.)

The noble countenance associated with this sketch is that of a man well known to fame, for his numerous and important discoveries in physical and sanitary science rank him with the greatest of the world's benefactors. In this face the brain system is dominant and of fine quality; the muscular system stands second in evolution, and the osseous and thoracic follow closely in power. The lower third of the face is well developed and affords sustenance to the higher powers. The nose is broad, high, and muscular; in it we perceive the evidence of Imagination. (This faculty often aids in invention and discovery.) The lower third discloses Analysis, Mental Imitation, Sublimity, Human Nature, Constructiveness, Acquisition, Veneration, and Reason of the highest. Self-will is conspicuous. The space between the eyes and eyebrows is worthy of attention, being very broad, thus indicating large Form and Size, as well as a comprehensive mind. The eyes and mouth denote normal Language, while in the forehead we observe corroborative signs of logical capacity, as well as Memory of Events and very great Intuition.

A physician must *cultivate* such traits as are weak, as, for example, Secretiveness; he should be the most prudent and discreet of men—able to command his tongue and facial muscles to that degree that even the most acute and anxious patient shall not perceive the slightest movement or change. He should cultivate cheerfulness and sociality, without gossiping (a gossiping physician is a dangerous being); he should develop his friendliness, love of children, and of the opposite sex; in short, he should be a *lover* of *humanity.*

THE SYSTEMS AND FACULTIES REQUIRED FOR A SURGEON.

The best *form* for a surgeon who attempts the most severe operations is the round build of body and head, and many of them are of this shape. The muscular system should be supreme, with the brain system a close second, the bony and thoracic systems about equal and next in development.

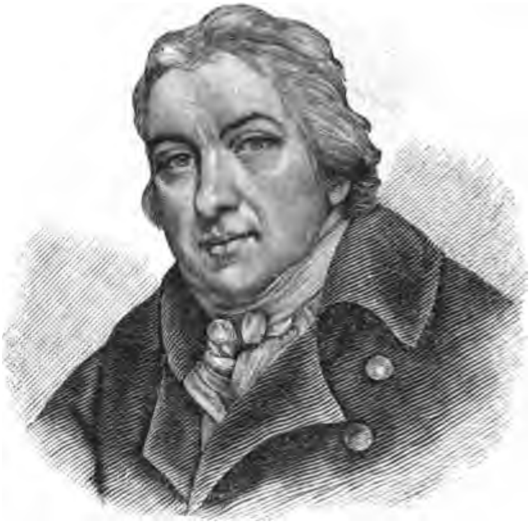

FIG. 360.—EDWARD JENNER, M.D. (CELEBRATED ENGLISH PHYSICIAN, AUTHOR, AND DISCOVERER OF VACCINATION.)

No scientific physiognomist could mistake this face for other than that of a physician, and an earnest and attentive one as well, as evidenced by the signs of "natural physician" in the cheek-bones, in the attitude of the head and neck, and by the thoughtful, observant expression of the eye. The combination of systems in this subject is such as is most frequently observed among physicians, viz., the supremacy of the osseous and brain systems. The muscular, thoracic, and vegetative powers all assist in this combination by their development. The signs for Conscience and Firmness are apparent. Love of Home and Patriotism rank high. Benevolence, Amativeness, Love of Young, Mirth, Approbation, Self-esteem, Modesty, Friendship, Alimentiveness, Sanativeness, Pneumativeness, and Color combine to form a lovely domestic and social nature. The form, size, and peculiarities of the nose claim attention. It is a nose denoting Constructiveness, Originality, and logical power. The signs for Hope, Analysis, Mental Imitation, Human Nature, Ideality, Sublimity, Construction, and Acquisition are strongly delineated. Self-will is normally developed, while Size, Form, Observation, Weight, Locality, Calculation, and Memory of various sorts are manifest. The signs of Language in the eye and mouth denote fluency, while the practical faculties, being dominant, would give clearness, perspicacity, and directness to his style of expression, either oral or written. Time, Order, Reason, and Intuition are well developed. The long-continued observation and experiments of this noble physician in his endeavor to protect humanity from the ravages of small-pox by his discovery of vaccination, met at last with a suitable recognition, for he received by a vote of Parliament the sum of £30,000, and special honors were awarded him. It is a singular fact that all of the benefactors of the human race—those who have benefited it by discoveries of any kind whatever—have met with the most violent opposition, treachery, and often disgrace, before they could make the world see the value of their discoveries. Such was the case with Dr. Jenner, but his firmness and truth at last gained the victory.

The muscular tissue is *comparatively unfeeling*—insensitive;

hence, the surgeon must have a large share of this material in his organism.

The surgeon should possess large Force, to aid him in operations; a good degree of Cautiousness, in order to prevent a rash use of the knife; large Constructiveness, in order that he may invent those diverse appliances needed for each individual case, and also to give ingenuity and dexterity in dressing wounds. He requires large Locality, to enable him to remember and visualize the position of all the various organs, veins, arteries, bones, and muscles

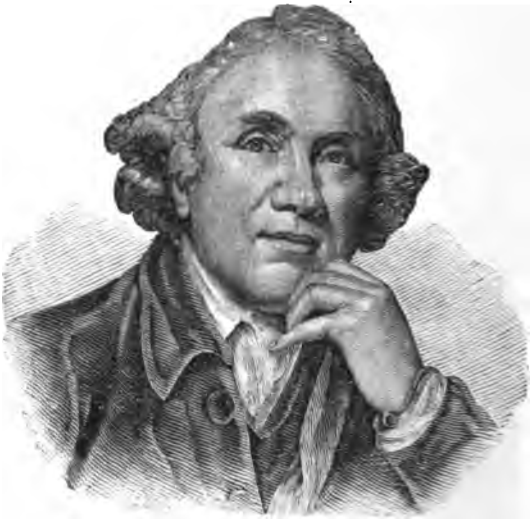

Fig. 861.—JOHN HUNTER. (Surgeon, Anatomist, Discoverer, and Author.)

In this portrait we have the evidence of an exceedingly well balanced character of a high order. The brain and muscular systems are well developed, while the thoracic, the osseous, and vegetative systems are largely represented. The chin discloses Firmness and Conscientiousness, also Love of Home and Patriotism. Benevolence is well defined. Alimentiveness, Love of Young, Mirth, Amativeness, Bibativeness, Hospitality, Approbativeness, Friendship, Sanativeness, Self-esteem, Modesty, Force, Resistance, and Caution are all well and about equally developed. The nose is unique. It is long, high, broad, and wonderfully elaborate in the lower third. Pneumativeness announces its power by the general large size of the nose and nostrils. Color is highly manifested. The signs for Hope, Analysis, Ideality, Sublimity, Mental Imitation, and Human Nature are in excess. Constructiveness is supreme. This faculty was probably inherited, along with other artistico-mechanical traits, from his father, who was a carpenter. Acquisition is highly manifested; this trait he exhibited by the wonderful collection he made for his museum, he having collected and prepared more than ten thousand anatomical objects. The nose also exhibits large Veneration, Executiveness, Reason, and Self-will. The space between the eyes is remarkable, and denotes a most uncommon sense of Form. The space between the brows and the width of the ethmoid bone is very great, announcing the sense of Size. The eyebrows disclose strength, vigor, and originality; the eyes, Language; the manner of their setting, large Observation and Prescience. The form of the outer angle indicates Agreeability. The peculiar formation of the malar or cheek bones is noteworthy; it reveals by its fullness the signs for the *natural physician and surgeon*. The lateral portion of the forehead shows the presence of round muscles; hence, is a secondary sign of large Construction, while Locality, Weight, Time, Order, Calculation, Reason, and Intuition are all highly manifest. The hands and fingers are characteristic, and disclose strength and flexibility. This grand surgeon and physician won the greatest honors and achieved the highest positions in his profession, having been physician extraordinary to the king and surgeon-general of hospitals in England. He wrote the "Natural History of the Teeth," "Observations on the Animal Economy," besides numerous other works, which, with his collections and museum, are left to enlighten posterity.

in the body. Form and Size are also requisite to aid the memory of the shape and relative position of each part, and to assist Locality. Human Nature is essential in order that he may be *en rapport* with his patients, and also to enable him to *divine* instinctively all bodily and mental states. He should be a good physiognomist, and be well versed in the *pathology* of physiognomy. He must have large Observation, in order to take cognizance of the most minute changes and appearances. Calculation is a useful trait also, as it is required in many ways in the medication and treatment of the wounded, as in chemistry and in making surgical implements, etc. He should have large Friendship, in order to attach his patients to him and to command their esteem; enough Benevolence to sympathize, but not enough to weaken the feelings when severity is required. The faculty of Amativeness is necessary to *comprehend* the nature of the opposite sex; Love of Young also, that he may inspire children with love and confidence.

The sense of Weight should be a strong one, for the muscular sense is dependent upon its power in order to *gauge* the amount of force to be used in handling instruments and in bandaging wounds, limbs, etc. Executiveness is required to assist authority and give resistance. Self-will is another ally most necessary, as well as Analysis, Time, Order, and Reason. A fair share of musical ability is required to assist the ear in making examinations of the heart and lungs, and in auscultation for various other purposes. If to these faculties one adds large Intuition, he has a fine bodily and mental equipment for the practice of surgery.

OTHER CLASSES OF SURGEONS.

Many army surgeons are characterized by a round and broad form, with broad, rather low, and round heads; short, round arms, and round and tapering fingers. This build is the most suitable for those severe operations which require the greatest exhibition of force, endurance, and coolness; another class of surgeons—those who undertake the more delicate and less forceful operations—are characterized by about an equal development of the brain and muscular systems. This class of surgeons tend naturally to the treatment of those finer, less difficult, and more delicate cases of operative surgery, such, for example, as treatment of the ear, the eye, etc. This class of surgeons require a fine endowment of the brain and nervous system. In short, the muscles as well as nerves of this class must be sensitive to a great degree, and this combination calls for a fine and high organization.

The surgeon should be something of an actor in order to know when to be sympathetic and when to be severe. Yet he should cultivate a friendly, cheerful disposition, and then use it when necessary. To all should be added a high sense of responsibility to God and humanity for his gifts and talents.

Great surgeons, like great poets, painters, and singers, are sent into the world not to selfishly enjoy their own great gifts, but for the benefit and enjoyment of the world at large. A talented surgeon lives not alone for his own day and generation, but by the power of his genius he lives for the ages, and sends the results of his skill and knowledge down the stream of time to bless and comfort millions who come after him.

The great operations and discoveries which such men as Hunter, Harvey, Jenner, Cooper, Jackson, Abernethy, Pasteur, Maudsley, Mott, Kernochan, Pancoast, Sayre, Barker, and a host of others equally gifted will aid and enlighten humanity as long as civilization progresses. These men are the world's benefactors, and I know of no profession, except it may be the theatrical, that is as charitable, and *none more self-sacrificing.* I herewith present the portraits of three eminent physicians and surgeons, each remarkable for discoveries which serve to alleviate suffering and save life. Their physiognomies will not be without interest to the reader, whom I advise to read a biography of each, which can be had in most public libraries.

THE SYSTEMS AND FACULTIES ESSENTIAL TO THE ORATOR.

Where the gift of oratory has been inherited it will assert its presence by certain undeniable signs in the face, and these will be corroborated by the bodily build and the hands. This power can be cultivated to a large degree; but where one is greatly deficient in the power of verbal expression he cannot become a fluent and eloquent speaker. It inheres in the *physical construction* of man (where it is present) as well as in the brain; there must be a consensus of action between the brain and body in oratorical subjects, for the orator expresses by his gestures and attitudes that which his voice fails of doing. There are two classes of orators—the electric and the magnetic. It is difficult to say which is the superior. I suppose, like the diverse classes of other artists, the several varieties are suited to many dissimilar departments of action.

THE ELECTRIC CLASS OF ORATORS.

The electric orators are those in whom the brain and nerve system is predominant, with the muscular system subdominant. These make clear, incisive, lightning-like speeches, appeals, and arguments. Such were Demosthenes, Cicero, Patrick Henry, Henry Clay, John Randolph, and Channing. These orators *electrified* their auditors, and were capable of infusing into them a spirit of instant action.

The electric orator is characterized by a fine nervous energy, and the brain system is dominant, the figure is tall and relatively thin rather than round, the face long and oval, and eyes large and bright, quick in movement, and expressive. The logical and argumentative style predominates in this class; they are noted for keenness at retort, for incisive sarcasm, vehement and scathing invective, and for holding before their auditors a high standard of conduct and motives.

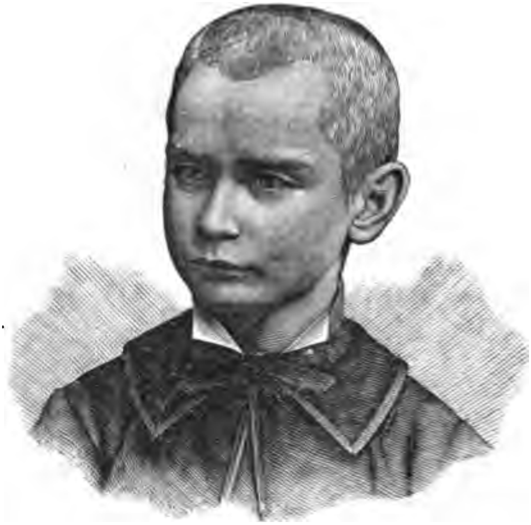

FIG. 362.—MASTER HARRY SHANNON. (ORATOR.)

The portrait herewith presented gives no adequate idea of the subject of this sketch, yet after having met personally, and having listened to the oratory of this precocious genius, I felt impelled to give my readers the benefit to be derived from a study of his speaking countenance. The mouth, ears, eyes, and frontal sinuses all announce oratorical ability. The chin is lacking in Firmness, but shows a good degree of Conscience; the jaw has the dramatic curve. The mouth is very wide, straight, and well formed. The lower lip denotes Benevolence; Love of Home and Patriotism are apparent, while Amativeness and Love of Young are uncommonly well developed. The upper lip reveals Modesty and a dignified degree of Self-esteem and Independence. Alimentiveness is relatively deficient, Sanativeness moderate, Mirthfulness, Approbativeness, and Friendship decided. The nose reveals Ideality, Sublimity, Human Nature, Construction, Acquisition, Veneration, Reason, and strong Self-will. The signs for Size, Form, Prescience, Observation, Locality, and Calculation are conspicuous. Mental Order, Time, Music, and Language most copious are indicated, while Memory of Events, Verbal Memory, and Intuition are phenomenally developed. This lad has beautiful dark-brown eyes, long lashes, a clear, delicate complexion, brown hair, and refined manners. His voice is loud and melodious, and his memory and rendition of the speeches of all the great orators is a wonderful exhibition of precocious genius. This analysis proves that the orator must have high quality and the physical and mental constitution suited to the requirements of this art. The orator should have an ardent love of Liberty, an abounding sense of Sublimity, and an appreciation of the natural rights of man, together with a large endowment of the color-sense to make his addresses fervid and impassioned.

This class should possess a large degree of Conscientiousness and Self-esteem; Ideality, to impart elegance and finish; sufficient of the thoracic system to give color and earnestness to their utterances, and a normal condition of the vegetative functions to supply nutriment and the domestic sentiments.

THE MAGNETIC CLASS OF ORATORS.

Another class of orators is illustrated by those in whom the brain and muscular systems are about equally developed, and of high quality.

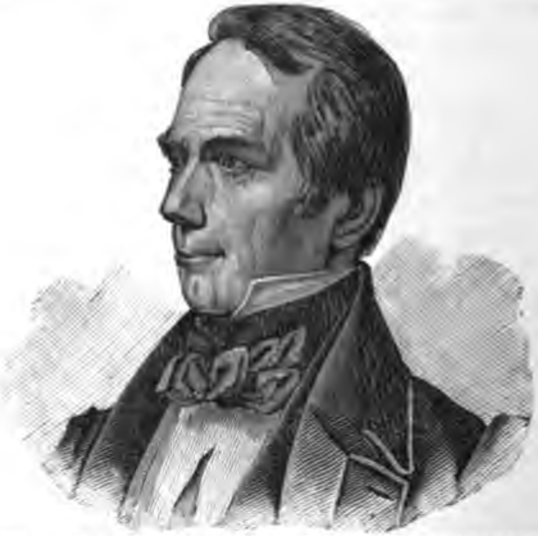

FIG. 363.—HENRY CLAY. (AMERICAN ORATOR AND STATESMAN.)

To meet face to face and delineate the character of such a man would indeed be a great pleasure to the scientific physiognomist. In this are all the signs of oratorical greatness. Oratory is art, hence we find signs of the artist in the face. The dimpled chin announces the influence of the muscular system, which in this subject ranks next to the brain and nervous system. The lower third of the face, from the point of the nose to the chin, is long, the cheeks full and wide from side to side, the mouth very wide, straight, and well formed, the lips even; the slight *outward curvation* of the upper lip is common to those who have spoken in public professionally, as is observed in clergymen, actors, and orators. The sign in the chin for Firmness is only average, while Conscientiousness is larger; Love of Home and Patriotism are very marked; Benevolence is full; Language in the mouth and eyes most eloquently indicated; Approbativeness, Alimentiveness, Friendship, Mirthfulness, Amativeness, Love of Young, Self-esteem, and Modesty all find strong representation. The nose is a wonderful feature; it is long, high its entire length, and broad on the back. Its *form* alone stamps its quality, for such a nose denotes the highest grade of mental and physiological power. The *tip* of the nose is remarkably developed, and indicates a broad understanding of Human Nature. It also discloses large Ideality, Sublimity, and Constructiveness, moderate Acquisitiveness, and large Reason, Veneration, Executiveness, and Self-will. The observing faculties are conspicuous. Form, Size, Locality, Observation, Memory of Events, Time, Order, and Calculation are among the great faculties which embellish this grand countenance. The frontal sinuses and the ear give assurance of development of the vocal and aural apparatus. The hair is well colored and straight, the eyes deep in hue, and the entire expression earnest and intellectual. The eye indicates sight, insight, and Intuition.

Magnetic orators are ardent, enthusiastic, witty, mirthful, and overpowering in their expression of *feeling*. So full of *emotion* are they that they catch the *popular* ear by their exhibition of and appeals to the domestic and social natures of their hearers. They depend upon their ardor and vehemence to captivate the minds of their listeners. They are possessed of strong emotional affectional, and often passionate natures, and seem capable, when aroused to their highest pitch of power, of carrying all before them, and of changing the minds of men whose *convictions* are based on the strongest sense of justice.

The magnetic orator is characterized by the round form of head and body, by full, convex eyes, oval face, rounded chin, and many exhibit a round or cleft dimple in the chin and cheeks; the hands are muscular and dimpled, and the fingers rounded and inclined to taper, with oval nails.

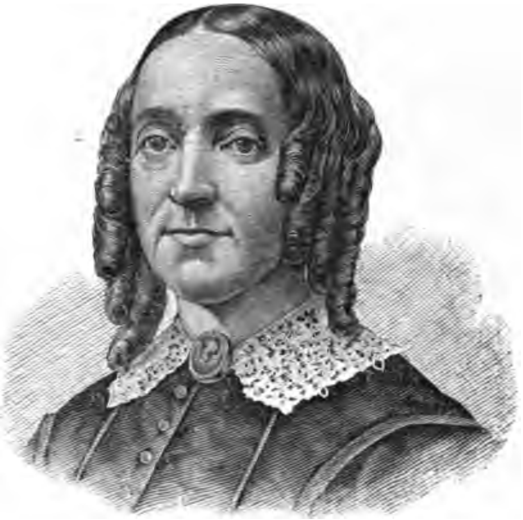

FIG. 364.—ERNESTINE L. ROSE.* (POLISH ORATOR AND REFORMER.)

In this expressive countenance Nature has stamped all of the signs of Oratory, as well as of Conscience, Reason, and Decision. This face shows that its owner has the courage of her convictions. It is the countenance of a lively, mirthful, witty, noble, logical woman, full of sweetness and intelligence. The upright carriage of the head and position of the neck denote rectitude, independence, and courage. In this face are all the signs of oratorical ability. The brain and muscular systems are about equal and of high quality. The artistic phase of mind is indicated, hence her oratorical efforts would be characterized by polish and elegance. The chin is oval; in it we see the signs for Firmness and Conscience well defined, also Love of Home, Patriotism, and Benevolence. The sustaining powers are well developed, as the signs for Alimentiveness, Bibativeness, Pneumativeness, and Color indicate. The social virtues are well represented, hence we find Hospitality, Friendship, Approbation, Mirth, and Language large; so, also, are Amativeness and Love of Young. The mouth is wide, straight, and beautifully molded; the upper lip denotes Modesty. The nose is æsthetic, constructive, literary, and logical in its three divisions. Strong Self-will is manifest. The width between the eyes and eyebrows is remarkable, and indicates not only the capacity to visualize forms, but shows also a breadth and comprehensiveness of intellect. The eyes denote power of Emotion and Language. The sign for Prescience is large, while the forehead denotes the supremacy of Memory of Events, Reason, and Intuition. This lady was a fearless and eloquent champion of woman suffrage and one of the world's great reformers and benefactors.

This class of orators possess a large endowment of the domestic and social sentiments; hence, we observe in them the signs for Amativeness, Love of Home, Patriotism, Mirth, Love of Young, Force, Color, Approbativeness, Friendship, Hospitality. Mentally they exhibit the signs for Ideality, Sublimity, Constructiveness, Acquisitiveness, Self-will, Form, Size, Credenciveness, Language, Memory of various sorts, Music, Time, Calculation, Reason, and Intuition.

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* This cut by permission of the editor of "The History of Woman Suffrage."

This combination produces the most emotional type of oratory. Henry Ward Beecher, John B. Gough, and Robert G. Ingersoll are fine illustrations of the magnetic class.

They are all highly dramatic, and, being permeated with color, are vivid, sensational, and intense in their utterance.

The art of oratory, like all other arts, is a congenital aptitude, and must, like all other arts, be developed by exercise and cultivation to be of the highest efficiency. A natural orator can be much strengthened by learning the art of *breathing* in such manner as to conserve his respiratory powers, in order to produce the most prolonged and sustained efforts. He should study elocution to improve his gestures and attitudes; a knowledge of logic and rhetoric are essential to impart reason and elegance. To be an orator presupposes the capacity for original and rapid thought; but in order that the mind shall have material upon which to meditate, and from which to draw instruction and argument, simile and metaphor, a great amount of experience of every phase of life, thought, and emotion is essential, as well as a great fund of knowledge drawn from the master minds in every department of knowledge. An orator should be familiar with history, statistics, biography, poetry, and literature of many kinds; he should have a broad acquaintance with the political history of his country; and if to all this he add a large sense of justice, he will not fail to strongly impress himself upon the minds of all who hear him.

Fine manners add greatly to the efforts of the orator, and a kindly, sympathetic manner in private throw a charm about his personality which assists in making him popular.

To be a great orator is to be in a sense *immortal*, for as long as civilization lasts the *thoughts* of great orators are cherished; for although the magnetic or electric effect of their utterances may have died away, their thoughts, if they be noble or inspiring, or such as appeal to our common humanity, are transmitted to the most remote generations. Witness the speeches and arguments of Demosthenes, for example, now over two thousand years old!

There are other varieties of these two ruling types of orators, and all grades of capacity, from the cross-roads stump-speaker to the brilliant orator of the Senate and Parliament. These general and diverse grades may be classified by applying the laws of scientific physiognomy to their faces.

The vocal and aural developments of great speakers are peculiar, and one has only to scan the size of the mouth and the area of the cheeks, the size of the nose and nostrils, the frontal sinuses, and the ear, to find all the evidence of vocal and auditory capacity. The section in the preceding chapter devoted to the ear will reveal linguistic capacity in this appendage.

The *color* of orators is another salient circumstance. I have never known of one who was pallid, and with colorless eyes and hair.

THE SYSTEMS AND FACULTIES ESSENTIAL TO A CLERGYMAN.

This class of men, according to Francis Galton, are "largely recruited from the sickly portion of adults." If this be so, it is a lamentable fact, for no profession has greater need of abounding health and strength than that which undertakes to be the moral guide and exemplification of a higher life. A condition of delicacy or ill health should deter one from entering the ministry, for one who is constitutionally weak cannot possess strong and hearty sympathies, nor can he perform those arduous duties which fall to the lot of most clergymen, nor practice the self-denial required, nor can he from morbid conditions of mind give forth sound, correct, and moral views of life and conduct. A weak or diseased condition of body imparts a perverted idea of religion. As the mind and body are so completely bound together that one cannot be disordered without the other partaking of its conditions, it follows that a sound constitution and robust health are the first requisites of a clergyman.

The combinations best adapted to illustrate a truly moral and religious life are the bone, brain, and thoracic systems dominant, or the brain, bone, and muscular systems supreme, or the bone, muscular, and vegetative powers in the order arranged. Those endowed with the systems here mentioned love and practice morality, purity, and truth, because they are constituents of their being; hence they are well fitted to *practice what they preach*, and are thus exemplars of their own precepts—the most convincing method of imparting truth or knowledge. Men of these characteristics are less liable to commit wrong than those in whom the muscular or vegetative systems are dominant. It is true that those of the bone and brain build are not so magnetic and dramatic as those in whom the muscular and brain powers are regnant; they are not so emotional and enthusiastic as the latter, but they are often most earnest, clear, decided, logical, practical, moral, and electric when they are gifted. Men of the emotional stamp are more fit for the stage-platform or politics than for the pulpit. The sensational and dramatic styles should be left to the theatre, and religion, pure and simple, should depend more upon calm, dispassionate reason and sound morality for its foundation.

A clergyman should be possessed of a well-balanced physiology and physiognomy; he should have large Conscientiousness and Firmness; a good degree of Alimentiveness, in order to sustain his mental powers; a Love of Young, that he may attract and instruct children; Mirthfulness, to make him cheerful; Friendship, in order to win and hold friends, and to impel him to the active duties of friendship; Hospitality, that he may offer reasonable entertainment to his friends and flock. He should have a good share of Sanativeness, Pneumativeness, and Color to impart vigor to his body and give power to his words and works. Considerable Self-esteem

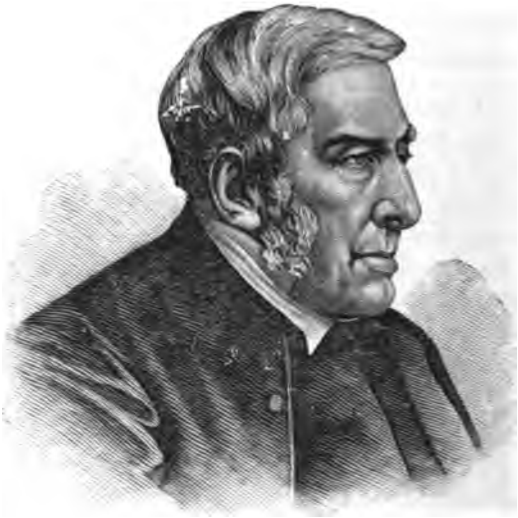

FIG. 865.—HENRY HART MILMAN. (FORMER DEAN OF ST. PAUL'S, LONDON.)

A great diversity of talents are exhibited in this countenance. Literary, philanthropic, moral, religious, and executive qualities here shine forth. Every feature is noteworthy; one knows not which most to admire. The thoracic system is supreme; the osseous and muscular systems are about equal, and rank next in the order of development; while the vegetative powers are normally indicated. The chin discloses Firmness, Conscience, and Economy, together with Patriotism and Love of Home. Benevolence in the lower lip is conspicuous. The signs of Alimentiveness, Sanativeness, Pneumativeness, Force, Color, Hospitality, Amativeness, Friendship, Approbation, Love of Young, Modesty, and Self-esteem are all large, and show that the sustaining powers and domestic and social nature was most uncommonly developed. The nose is long, high, broad, and extremely high and elaborate at the tip. The signs for Hope, Analysis, Human Nature, Mental Imitation, Ideality, Sublimity, Construction, and Acquisition announce a first-class literary power. His poems, histories, dramas, etc., are corroborations of these signs of literary capacity. Veneration, Executiveness, and Self-will fill out the upper portion of a noble feature. The eyes are deep-set, and the brows flex downward at the inner termini, disclosing Observation. Prescience is normal, while Credenciveness is deficient. Locality, Form, Size, Language, Weight, Time, Order, Calculation, and Music are well defined. The projection of the brow and the receding forehead announce a practical thinker; the squareness of the brow denotes Order, and is a secondary sign of rectitude. The ear is large, well-rounded, and reveals fine aural capacity. The form of the neck discloses vitality, and its position earnest attention. The hair is straight, with a flexibility that indicates artistic powers, and these were exhibited in his dramas and poems. Altogether it is a face of great mental capacity, moral grandeur, and of physical perfection.

is required that he may exhibit dignity and independence; a certain amount of Force is a good quality to enable him to present his ideas with power and to combat error vigorously. Sufficient Secretiveness is a strong ally to enable him to keep the confidences of his people sacred; a fair degree of Hope and Caution assists his efforts; a large degree of Benevolence is essential that he may be charitable and sympathetic in dealing with sinners as well as with saints. Mentally, a clergyman needs a fair share of Ideality, Sublimity, Mental Imitation, and Construction in order to arrange his ideas in good form and with beauty and loftiness. He requires large Veneration to give a sense of submission to law; Executiveness, in order to control and command; a modicum of Self-will is helpful, and Form, Size, and Prescience as well; fluent

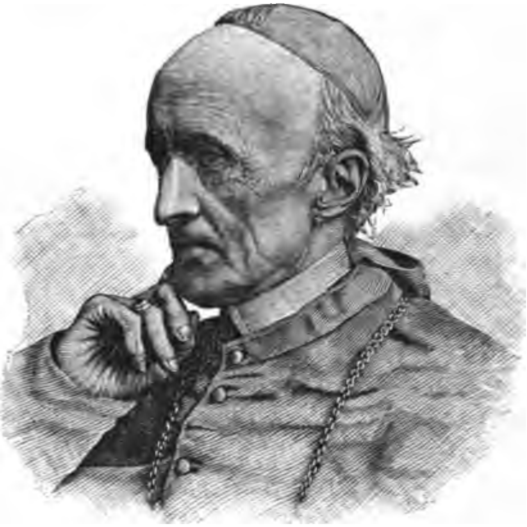

FIG. 366.—CARDINAL HENRY EDWARD MANNING.

In this noble face all of the signs of intellectual power, purity, and benevolence are visible. The brain and bone systems are supreme, while the muscular powers are well developed, as evidenced by the form of the nose and the size and form of the eye. The long, thin face and full lower lip reveal sympathetic and benevolent tendencies, while the fine quality and large development of the brain, in combination with the last mentioned, would impart the *philanthropic phase* to his character. In the chin the signs for Firmness and Conscientiousness are normal; Love of Home and Patriotism are apparent. The lower lip is full and denotes large Sympathy. Sanativeness, Mirthfulness, Pneumativeness, Economy, Modesty, and Self-esteem are largely defined. Mental courage and force of character is indicated by the large size and form of the nose, which discloses the following faculties: Human Nature, Sublimity, Constructiveness, Acquisition, Veneration, Mental Imitation, Analysis, Executiveness, Reason, and Self-will, all conspicuous. In the eye and mouth the signs of fluent Language are evident; Prescience and Credenciveness are both manifest; while in the forehead the signs of Memory of Events, Mental Order, Time, Causality, Comparison, and Intuition are most decided. The hand is characteristic of philosophic rather than of scientific tendencies. The ear is that of an orator. The brain shows a theoretical rather than a practical mind, although so large an amount of bone *tends* to make the theories practical to a *certain degree.* The expression of the face conveys the idea of intellectual and moral force. The Cardinal is inclined to reforms *within his sphere*, and has shown his philanthropy in many ways, particularly in the settlement of the recent strike of the dock-laborers in London in favor of the oppressed laborers.

and eloquent Language should be his. He should have large Human Nature in order to understand all phases of life and every condition of humanity—its needs and weaknesses; large Intuition, to enable him to instantly divine their mental and moral status. A large degree of Credenciveness is not required, as it tends, if too greatly exercised, to superstition, and this trait conflicts with practical truthful demonstration. He should cultivate an active liver by attention to dietary laws, for this imparts clearness to the ideas and cheerfulness to the disposition; this enables him to present religion in a pleasing and happy manner, instead of in the sad and gloomy way in which bilious and dyspeptic ministers are wont to impart their teachings. A minister should, like Moses, be a good hygienist, in order that he may know how not only to retain the healthful equilibrium of his own body, but to be able to distinguish physical ailments from moral and mental defects. Many persons often confound these two conditions.

A clergyman should be a student of the natural sciences, for in this department of nature he will find laws and truths that are "infallible." The laws of God, as shown by the laws of science, are, indeed, a "revelation," and need only close observation and analysis to assure us of their accuracy. To all these a clergyman should add a knowledge of scientific physiognomy, that he may be *sure* of his opinions in regard to the character of his people, and thus be enabled to work for their highest welfare.

A clergyman should possess the elements of progress and reform, and this requires the courage that springs from Conscientiousness. Large Conscientiousness will give this power unaided by the faculty of Resistance, for it is the mightiest force in the human mind; this faculty needs the balance of logical Reason to make it most effective.

With this analysis I present delineations of the physiognomies of Cardinal Manning and Dean Milman, eminent members of the two ruling Christian denominations, viz., the Protestant and the Romish.

THE SYSTEMS AND FACULTIES ESSENTIAL TO A LAWYER.

As long as people omit the practice of the injunction "Love thy neighbor as thyself" we shall require the services of lawyers; and, as the millennium does not appear to be near at hand, there seems a probability of our needing their services for a long time to come. I will, therefore, outline the requirements of a "legal gentleman."

He may have a combination in any degree of any of the four superior systems, if he have a suitable quality of the brain as well as of the vegetative powers to impart vigor and reason.

The various phases of the law require many diverse sorts of mind to interpret it; it is with this profession as with all others,—the several aspects and departments need minds suited to their requirements. In certain branches the best combination is the brain and bony systems dominant, as in courts of equity; in others, the brain and muscular systems supreme are required; this class make the best advocates and orators, while those with the brain, bone, and muscular systems of fine quality, well developed, make good counselors.

A good lawyer requires a good development, firstly, of the vegetative powers to give the sustenance essential to his arduous labors, and these powers create the social and domestic sentiments which he requires, not only to attract and hold friends, but he needs them in order to exhibit the emotions before a jury, for there is no use of endeavoring to *imitate* them; without in some degree feeling them he will fail in his attempt and meet with no response. He should cultivate Force, in order to stand his ground and present his ideas and arguments in an earnest and energetic manner, and also to assist sarcasm and invective; Resistance, that he may oppose with vigor the onslaughts of his opponents; and Secretiveness that he may be able to use great discretion in keeping his ideas and plans secret until the right opportunity presents itself for him to show his hand. Caution, also, is a necessity, to make him prudent in speech and action. Large Self-esteem is requisite to impart confidence and self-possession; not too much Modesty, for it is not well for a lawyer to underrate his abilities, nor to be backward in asserting himself; sufficient Conscientiousness is wanted that he may inspire the confidence of his clients and to enable him to carry conviction of the justice of his cause to the minds of judge and jury; Firmness must be normal to give the patience and perseverance necessary in long-continued causes.

A fine mental endowment is required by one who would succeed in law, and, with this, an excellent education is a necessity. Not only is a comprehensive knowledge of the law required, but all sorts of learning as well; a lawyer must possess a mind well stored with dates, facts, and a variety of anecdotes, as well as poetry, with which to amuse, entertain, and adorn his language. He requires a good share of Veneration that he may respect the rulings of the court; large Language, in order to express himself with precision and eloquence, and sway the jury and carry public opinion with him. A wide knowledge of Human Nature must be his, in order to know how to comprehend the motives of people as well as how to *manage* them; to work upon the sympathies of the jury as well as to convince by logic the more reasonable part of them.

Lawyers should make a thorough study of scientific physiognomy, for this will add greatly to their power in the management of both jury and witness. This study should be a part of the curriculum of all law-schools. Mirthfulness is a great assistant, for this, with large Language and Construction, creates wit, and wit is very convincing to certain minds. A sense of Sublimity is an aid, for it gives the power and enables one to comprehend causes involving vast interests; he must possess sufficient Ideality to make his language polished, and to impart a sense of propriety, taste, and elegance to his dress, manners, and speech, for all of these circumstances carry weight and influence all beholders. A dirty, slovenly lawyer, whose dress and appearance is repulsive, must exhibit almost superhuman powers to be able to naturalize the effect of his *personnel.* A good degree of Will is a necessity, and a large and strong Memory of all sorts; Reason of the highest, also, and a large measure of Intuition. To all these great, good health is necessary, a love of work and study, indomitable energy and perseverance, and a determination to succeed.

THE SYSTEMS AND FACULTIES ESSENTIAL TO AN INVENTOR.

Among inventors are to be found men of various combinations of systems and faculties. They present various forms which are in harmony with the sort of implement or plan which they create. Edison, for example, exhibits a high quality and large endowment of the brain and nervous system supreme, and he deals with the finer forces of Nature which are akin to the electrical mechanism of the brain and nervous system. Elias Howe possessed a fine quality and large endowment of the brain and muscular system, and his invention was moved by wheels—circular objects. Morse, who invented the telegraph, had a combination of brain, muscle, and bone nearly equal in development, and his creations required the use of several principles of mechanism, and he had the organization and form suited to the creation of various sorts of mechanism.

Thus we see that the inventor inherits the peculiar powers that are required for putting in operation those principles of mechanics which are the most decided in his own organization. No postulate can be sounder than that which is so well expressed by Winckelmann, and quoted at the head of this chapter, viz., "We generally think according to our formation." Not only does man *think* according to his formation, but he *acts* in harmony with his build. Indeed, he cannot well act in opposition to it; hence the inventor is born with the *capacity* for that which his genius produces.

The inventor requires a large brain, together with sufficient development of the muscular system to aid the mental conception of *motion;* enough of the bony system to give clearness and a perception of truth; that is to say, perception of the laws of Nature, which are based on mathematical precision, and all the works of man are representative of the mechanical laws governing the works of Nature. He should have sufficient of the thoracic system to enable him to *instinctively* comprehend and apply the principles of periodicity, which are characteristic of the movements of the heart, lungs, circulation, and digestion, and to all these a good share of the vegetative powers, to give sustenance to the other systems, and to evolve those sentiments which lie at the base of all creative efforts, such as Amativeness and Love of Young.

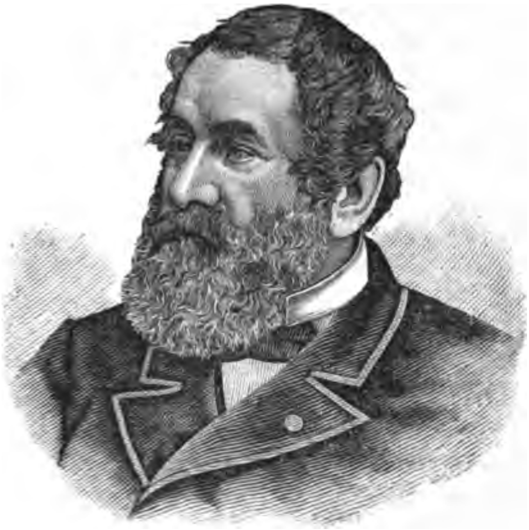

FIG. 367.—CYRUS HALL McCORMACK. (INVENTOR OF THE REAPER.)

In this energetic countenance we observe all of the elements of mechanical ingenuity. The signs for Thought, Perseverance, Construction, and Intuition are marked. The brain, bone, and muscular and thoracic systems are about equally developed and of high quality. The lower third of the face is covered, but observation of the rest of the countenance assures us that Firmness and Conscience are well represented, as well that Alimentiveness is indicated by the well-nourished appearance of the physiognomy. Color, Sanativeness, and Pneumativeness, also the domestic functions and faculties, are well developed—for so fine a superstructure has an equally excellent foundation. The nose is broad, high, and of proportionate length. The tip is both high and broad, indicating not only Human Nature, Ideality, and Sublimity very large, but it also shows a progressive, investigating spirit. Mental Imitation, Analysis, Constructiveness, Acquisitiveness, Veneration, Executiveness, Reason, and Self-will are all conspicuous. The eyes are deep set under an overhanging mechanical brow. The signs of Form, Size, Weight, Faculty, Observation, Order, Time, Calculation, Memory of Events, and Intuition are all remarkably developed. The ear is large and round, disclosing good aural capacity, Music, and Commercial capacity. The hair falls in slight and easy curves, and is an accessory sign of Constructiveness. The face, as a whole, indicates originality, will, progress, and energy.

Reference to the physiognomy of all superior inventors will disclose a large degree of these as well as of other domestic and social traits. The inventor requires a good degree of Force, Self-esteem, Pneumativeness, and Caution; he should have large Hope, but not enough to make him too sanguine and mislead him; he needs Analysis, Mental Imitation, Ideality, and (in the construction of mechanism involving great principles) a good share of Sublimity is useful. Self-will is a much-needed factor; Form, Size, Weight, Locality, Time, Order, Calculation, Reason, and Intuition are required in a large degree.

A knowledge of physics, natural philosophy, mathematics, and mechanics is required. A love of investigation, an insatiable curiosity in regard to laws and principles, and a patient, persevering spirit are characteristic of all those great inventors who have blessed the world with their inventions. I advise my readers to familiarize themselves with the life, labors, and struggles of the great inventors of modern times—those men who have wrought out of their inner consciousness the wonderful systems, implements, and machines which have been mainly instrumental in evolving a high civilization.

A knowledge of how such men as Watt, Stephenson, Fulton, Hoe, Morse, Edison, and Goodyear struggled, suffered, and succeeded would very greatly stimulate and strengthen other inventive minds, as well as the minds of all who take an interest in the development of character. Nothing so sharpens the faculties as the struggles necessary to *compel the world to accept* a great idea which has taken form and wrought out practical and philanthropic results, such, for example, as the use of steam, of electricity, the art of printing, the sewing-machine, etc.

Character is developed, first, by an inward force acting on circumstances; second, by outward circumstances and opportunities. The great characters of the world were not created in luxury, for luxury enervates and destroys. History records few inventors or reformers who were reared in the lap of ease and surrounded by wealth; and parents need not expect great things of their children whose minds are clogged and senses cloyed with the material things of life. Grand characters are the result of self-denial, self-control, self-sacrifice, and the pursuit of high ideals, or else evolve in the order of Nature by natural development, having inherited capacity for greatness which is irresistible.

THE SYSTEMS AND FACULTIES NEEDED BY A COMMANDER.

The conduct of a great campaign, whether naval or military, requires high mental qualifications and great bodily powers. Commanders need a large and broad brain to give strength and comprehensiveness to their ideas and plans; they require a large endowment of both bone and muscle to impart stability and aggression to their movements. The thoracic system must be well developed, for this gives love of progress, a desire for leadership, and makes the mind clear and fertile. The vegetative system must be active in order to nourish and sustain the mental efforts and bodily activities. All of these functions need to be of high quality. The faculties essential to true greatness in the direction of command are many. Large Firmness and Conscientiousness are needed to make the character persevering and unyielding, and also to impart a high sense of duty and responsibility, and to hold others up to the same standard. Large Patriotism is needed to impel one to plan for his country's good and glory. Amativeness is an assistant to a vigorous manhood. Pneumativeness is required to give vigor and enthusiasm. Color also aids by imparting enthusiasm, and also makes all of the tissues more powerful. Self-esteem is a strong ally, for it lends dignity and independence to the character. Large Force and Resistance are necessary in order to oppose and resist attacks. A due degree of Secretiveness and Caution is essential, and is needed in order to keep plans secret and prevent rashness. Human Nature must be cultivated to enable one to deal with all sorts of characters. Executiveness should be one of the dominant faculties, as well as Self-will. Constructiveness on a large scale is needed to aid in plans and schemes. Form, Size, and Observation are requisite to assist Construction and enable one to *visualize* the field of action, as well as faces and all forms and shapes connected with the duties of a commander. Locality is another powerful assistant; so also are Mental Order, Calculation, and Reason.

A commander should be a well-disciplined soldier or sailor; he should have a comprehensive, technical knowledge of his profession; he should be familiar with the biography of all the great commanders of the world, and the history of all the principal campaigns and engagements of all ages.

So many varieties of character exist among commanders that it is no easy task to describe and classify them. Some are aggressive, and rush forward into engagements with an impetuosity that carries all before them. Such were Napoleon, Napier, and Julius Cæsar. Others, more calm and patient, sit quietly down and plan, in a comprehensive spirit, great campaigns, and with a knowledge of the enemy's strength, weakness, and plans move to an attack with almost a certainty of success. Marlborough and Grant were of this class. Other commanders, like McClellan, are less aggressive, but make great *organizers.* There was never as large

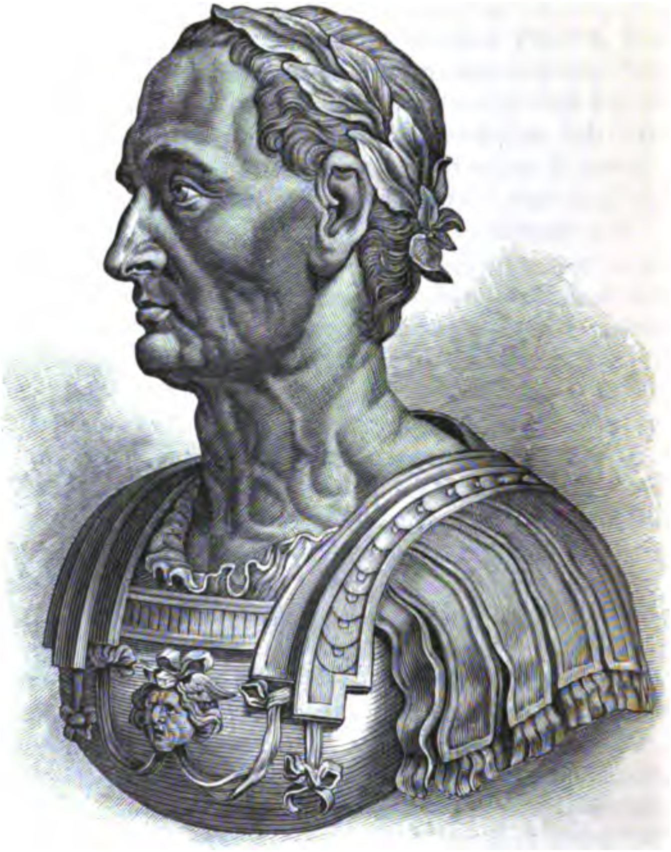

FIG. 368.—CAIUS JULIUS CÆSAR. (ROMAN COMMANDER, STATESMAN, ORATOR, AND AUTHOR.)

The scientific physiognomist may well pause before so noble, so god-like a countenance as this. It is the grandest I have ever beheld. Certainly no modern physiognomy is at all comparable to it. All the elements of grandeur are here. The shoulders, the chest, and neck assure us (were it not visible) of a great physiognomy. What I might say of this countenance would not begin to express what the sight of it alone reveals. Language is wholly inadequate to describe it, yet in the interests of science I must make the attempt. The chin is a truly Roman feature, and seems *too* prominent, but were it smaller the harmony of the whole would be destroyed. The rounded contour of the lower jaw reveals the *tragic* elements of his character, which he illustrated in his actions upon the stage of life. The lips are noble and beautiful; the nose—oh, what a sublime feature! The eyes announce great power, and are proportioned to the rest of the organism. The superciliary area and the brows are grand and unique. The upper part of the forehead, and the forehead as a whole, is unapproachable. The ear is in grand style, both as to size and form, and discloses wonderful powers. The brain system is of the highest quality and is dominant; the muscular ranks next; and the thoracic and osseous are about equal in degree, and are very nearly as well developed as the first-mentioned; the vegetative is sufficient for nutrition; where the muscular system is so largely developed a great degree of the vegetative is not required. In the chin we find the signs for Firmness, Conscience, Patriotism, and Love of Home; in the lower lip, Benevolence. The cheeks are muscular, and, with the curved jaw, denote great constitutional vigor. Amativeness and Love of Young are well defined. The signs in the nose are all conspicuous; Hope, Analysis, Mental Imitation, Ideality, Sublimity, Human Nature, Construction, and Acquisition are all large; the executive portion is strongly outlined. Veneration, Reason, Executiveness, and Self-will together make this the grandest and most aggressively-mental nose ever beheld. The eye shows Language, Motion, and Observation. Its position in relation to the surrounding parts is a wonderful study. The signs of Form, Size, Prescience, Observation, Weight, Locality, Time, Order, Music, Calculation, and Memory of Events are of the largest. The upper part of the forehead announces great Memory of Events, and corroborates the signs of Causality and Comparison in the nose. Intuition is immense, and this faculty in combination with Human Nature (height of the tip of the nose above the plane of the face) gave him almost superhuman knowledge and command of men and things. The whole expresses great intellectual power, comprehensiveness, and ambition, an army so well organized and disciplined as that which General McClellan left to his successor, who had the faculty requsite to *supplement* that of General McClellan's grand gift of organization. Possibly the general who led the attack could not have built up so vast an army as the former. In military matters many sorts of character are needed to carry forward the various operations and meet the requirements of a campaign. There must be those competent to provide food for man and beast; others to secure the necessary quantity of ammunition; others to build roads and bridges; others, yet, to drill and discipline; others to organize, and others to command. Yet, because one man commands, the labors of all others should not be ignored, nor should they be deprived of their meed of praise. I regard the organizing and executive ability of General McClellan quite as great in its way as the aggressive spirit of command displayed by General Grant. It was certainly quite as essential to the success of the campaign that it should

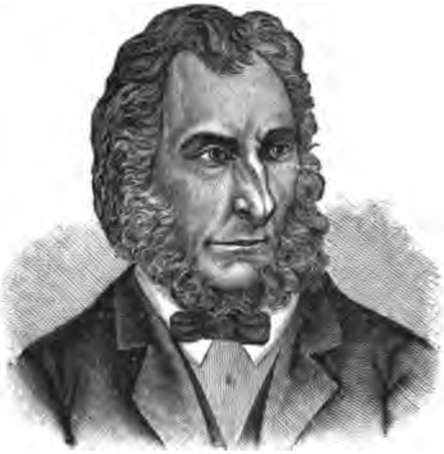

FIG. 369.—SIR CHARLES JOHN NAPIER. (ADMIRAL OF THE BRITISH NAVY.)

This truly leonine countenance reveals just what the visage of the king of beasts discloses, viz., force, courage, and aggression. We observe in this subject the dominance of the brain and muscular systems, with the osseous and thoracic taking second place. The chin is broad, thus showing a high regard for duty and giving severity to the character. Love of Home and Patriotism are manifest, while the mouth, wide and straight, denotes capacity and linguistic powers. The nose is a remarkable feature; its length denotes perspicacity; its height and breadth, vigor of the visceral organs and force of mind. The point discloses the signs of Analysis. Human Nature, Ideality, Sublimity, Mental Imitation, Construction, and Acquisition are very well defined. Veneration, Self-will, Logical Reason, and Executiveness are the prominent signs in the face. The width between the eyes is uncommonly great, and shows not only large Size and Form, but a broad and comprehensive intellect. The eyes disclose Language and muscular power. The signs of Observation, Weight, Locality, Calculation, Time, Order, and Memory of Events are conspicuously apparent. The hair and beard indicate vigor and strength, while the general expression denotes power. This subject entered the British Navy at thirteen, and the following year was wounded in an engagement. The profession of arms and the ability to command were hereditary in his family, and were shown at an early age. It requires more than one generation of commanders to develop such a nose and physique. For his brilliant services this fearless commander received high honors from his own and other governments. It is thus that true bravery and courage should be ever recognized.

have thorough organization and discipline as that it should have an energetic leader when ready for action. With this analysis I present the portraits of two aggressive and successful commanders, viz., Julius Cæsar and Admiral Napier.

THE SYSTEMS AND FACULTIES NECESSARY TO A SCIENTIST.

The scope and plan of Nature is vast and wide, and those who would enter her temples must be of many diverse constitutions and be dominated by the spirit of truth. This is a *sine qua non.* *Science is an exposition of the laws of God, as shown by the laws of Nature;* hence, law, truth, and infallibility lie at its foundation and accompany its every step. A man who does not love truth better than his own ideas and theories is a recreant, and not fit to be ranked among the noble army of truth-seekers which in this age is exploring every department of Nature's broad domain with the view of ascertaining God's laws and His method of creation. Surely no pursuit can rank higher than this. The reign of law in all departments of the universe is an assured fact. To seek out and apply these laws is the aim of the true scientist. To live without a knowledge of these natural laws is to live without God, for to remain in ignorance of law, as do the beasts, is to follow their methods of existence. That "the carnal mind is enmity against God" is well illustrated by the opposition that the weak-minded, vicious, and bigoted in all ages have shown to the advancement of truth as revealed by natural law. The persecution of Bruno and Galileo for asserting that the world moved is only one of the thousand persecutions which the truthful scientist has had to suffer. Fortunately, in these days the scientist is not threatened with the stake and faggot as formerly, yet certain ecclesiastical institutions still pursue him with opposition and anathemas. Their day is, however, short, for "Truth is mighty and will prevail," and the reign of law is bound, under the inexorable law of evolution, to become a recognized fact.

The powers and faculties needed by the discoverers, leaders, and teachers of science are many, and must be of high quality and power. They must be, in the first place, logicians; that is, they must have a large endowment of Causality and Comparison, in order to analyze and classify their ideas, theories, observations, objects, and materials. They require a sound and well-balanced body and mind. They must be fearless and independent, in order to cope with error courageously.

The scientist must possess *enthusiasm*, for nothing is so capable, it seems to me, of arousing one's whole being as the discovery and demonstration of a great fact or law in Nature.

A large degree of sensitiveness of the brain and nervous system is essential, for the scientist must be *alive* to the appearances of all things in Nature, particularly so of that class of phenomena which his peculiar talents fit him for observing. A spirit of curiosity, of speculation, and of inquiry must be his, together with untiring patience and perseverance. A broad and comprehensive manner of investigation must characterize his methods, in order that he shall know whether the principles which he promulgates are sustained and corroborated by the facts and laws of other departments of demonstrated science.

A *lively imagination* is indispensable, yet it must not exceed a certain degree, otherwise he will entertain chimerical fancies which cannot be proven by cognate facts and laws. The nerves of all good and great scientists reveal that Ideality has assisted them, not only in doing their work in an ornate and finished manner, but it demonstrates that it has aided in imagining the probability of the existence of the Unseen. In this way many missing links in the chain of scientific evidence have been discovered and worked out to a demonstration. *Sublimity* is required to bring the mind *en rapport* with the vast and complex laws and works of Nature. A small and narrow brain is not competent to grasp in its entirety the grandeur and magnificence of universal law, and Sublimity is one of the faculties which here assists.

The physiognomies of all the celebrated discoverers, theorizers, and demonstrators of science are proof of what is here stated. Examine, for example, the faces of Galileo, the Herschels, Arago, Buffon, La Grange, Huxley, Darwin, Spencer, and Agassiz, and in each countenance will be found, in varying degrees, the signs of character above named.

A sound *visceral organization* is one great essential to scientific labors and profound thought, such as is required for the solving of the great problems of Nature. The faces of the leaders of scientific thought in all cases disclose a normal or balanced degree of the visceral powers. A life devoted to scientific research is highly beneficial to health and conduces to longevity. Statistics corroborate this statement, while the investigation of the physiognomies of a large majority of scientists discloses the fact that the tendency to longevity is part of their birthright. It is this *soundness* of the foundation system of functions, in combination with a good brain, that has given them the capacity for profound and prolonged mental labor. The exercise of the *emotions*, such as are necessary in many artistic pursuits, tends to impair the health and shorten life. All of the most exhausting emotions are constantly called into play in most artists, for the expression of art is based on love, joy, hatred, jealousy, revenge, etc., as the poems, plays, works of fiction, paintings, and statues of these classes prove, and these emotions cannot be portrayed and represented without being *felt* in a certain degree. Then, too, the passions of love, rivalry, and jealousy are much more strongly felt and exhibited by the artistic classes; hence it follows that a calm and reflective state of mind is more conducive to health and longevity than where the mind is the battle-ground of excessive emotional activity. Many eminent scientists have lived in full possession of their mental powers to a very advanced age, as witness Caroline Herschel, who lived to ninety-seven years; Chevreul, who died recently at one hundred years. Humboldt lived to a great age, and

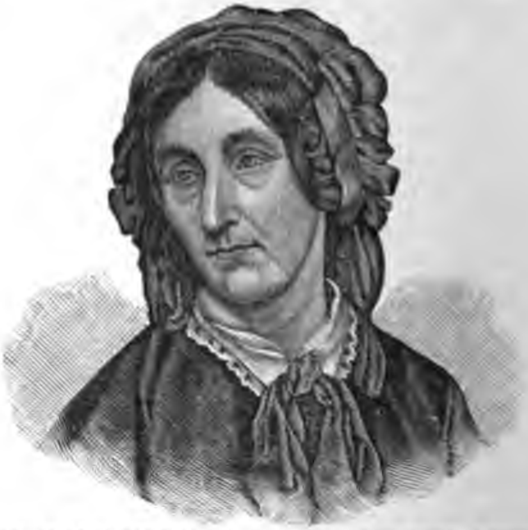

FIG. 370.—MARY SOMERVILLE. (SCOTCH SCIENTIST, AUTHOR.)

In this placid and thoughtful face we find the evidence of scientific capacity, of a lively disposition, of a true, sweet, strong-minded woman. In this organism the brain and osseous systems dominate, the muscular and thoracic rank next, while the vegetative powers assist nutrition and domestic sentiment. The chin is curved, indicating dramatic tastes and constitutional vigor. It discloses Firmness, Conscientiousness, Patriotism, and Love of Home. The signs for Benevolence, Amativeness, Love of Young, Modesty, Approbation, Alimentation, Hospitality, Friendship, Sanativeness, Pneumativeness, Color, Caution, and Mirth are conspicuous. The nose is long, high, and broad *its entire length*, and reveals Sublimity, Ideality, Human Nature, Constructiveness, Acquisition, Veneration, Reason, Executiveness, and Self-will. The mechanical faculties are well represented. Size and Form are excessively developed. Language, both in the eyes and mouth, denotes linguistic talent. Observation, Calculation, Time, Order, Memory of Events, and Intuition are decided. The neck is a noble member. The position of the head announces attention, while the expression of the eyes indicates thought and mildness of disposition. The works of this lady are very scholarly and profound. She gave a translation of Laplace's great work, "Mécanique Céleste," and produced a work entitled "On the Relation of the Physical Sciences." She wrote extensively on such subjects as gravitation, heat, electricity, comets, the tides, and distinguished herself by experiments on the magnetic influence of the solar rays of the spectrum. She was made a member of the Royal Astronomical Society, and received a pension of three hundred pounds sterling per annum from the Civil List Fund. Added to all, she was a devoted wife, an affectionate mother, a good housekeeper, and a true friend.

his mental labors were prodigious, and continued to his latest days. I might instance very many more. With this analysis I give the delineation of Karl Vogt, eminent German anthropologist, and Mary Somerville, the most celebrated female mathematician of Great Britain.

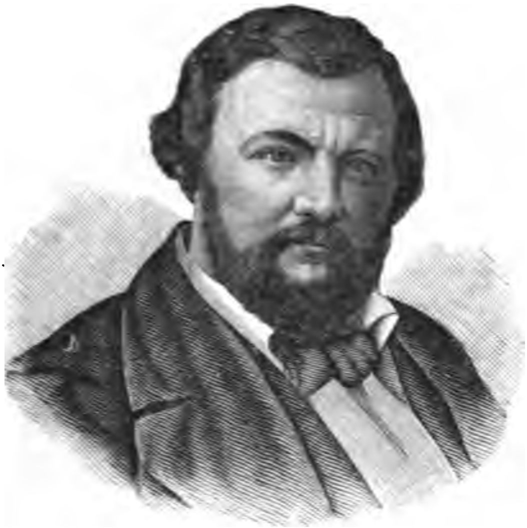

FIG. 871.—KARL VOGT. (GERMAN ANTHROPOLOGIST, PHYSICIAN, AUTHOR.)

In the face before us we have all the evidences of a sound and vigorous constitution and a broad and profound thinker; indeed, *breadth* is the key-note to the entire organism. High Quality, deep Color, Proportion, and Health are all revealed in this strong countenance. Strength without coarseness, combined with many high traits, assure us that we are dealing with one of *Nature's* "thorough-bred" creatures. The brain and muscular systems dominate. The chin announces a character of great stability. Firmness and Conscience are well defined. Love of Home and Patriotism, Benevolence, Love of Young, Amativeness, Alimentiveness, Pneumativeness, Color, Sanativeness, Friendship, and Hospitality are all well developed, and show us the basis of a sound intellect and healthy moral and domestic nature. The upper lip is relatively short, proving that egotism, at least, is not present. The breadth of cheek and signs for Sanativeness disclose great health and capacity for medical science. The nose is proportioned to the other features. The signs for Mental Imitation, Ideality, Sublimity, Human Nature, Construction, Acquisition, Veneration, Reason, Executiveness, and Self-will are conspicuous. Form, Size, Weight, Language, Locality, Observation, and Calculation are pronounced. The shape of the forehead shows a comprehensive brain, and reveals the signs for Time, Order, Memory of Events, Reason, and Intuition. The shape of the chest, shoulders, and neck tells us that the thoracic structure is capable of sending a large quantity of well-oxygenated blood to the brain with rapidity. The position of the head denotes the attentive, patient thinker.

THE SYSTEMS AND FACULTIES REQUIRED BY A CIVIL ENGINEER.

The ability to design and construct important works by application of the laws of physics as illustrated in engineering requires a superior intellect and a body constructed upon sound mechanical principles. A mechanical body is always associated with a mechanical mind; that is to say, the mind and body are a unit, and each expresses the other, if we have only a method by which we can translate form into character. This method is developed in scientific physiognomy and corroborated by the *facts* of physiology, anatomy, evolution, heredity, embryology, and kindred sciences.

The mechanical engineer requires a due development of the brain, osseous, and muscular systems of good quality. He needs a large endowment of the vegetative powers to nourish and sustain the other systems. A fair share of Color is essential to give integrity to all the tissues and for the practical uses of the materials involved in the profession. Strong muscles are necessary in order to impart the sense of rhythm and periodicity, and to aid the faculties of Constructiveness and Calculation, as well as to give dexterity in the manipulation of materials. Very large powers of observation must be had, and all the practical qualities as well.

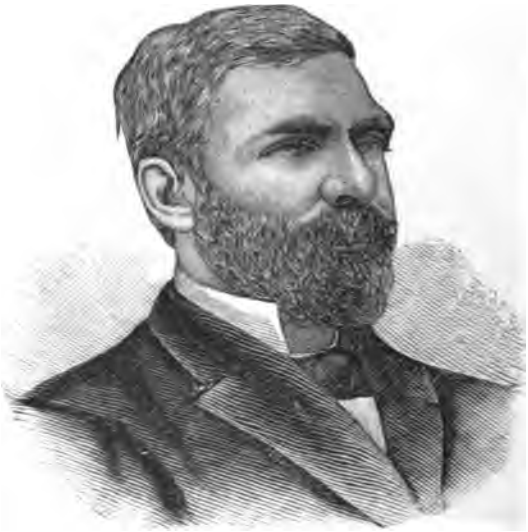

FIG. 372.—WASHINGTON A. ROEBLING. (CIVIL ENGINEER, AUTHOR.)

The dominant expression of this face is one of power—of calm, collected, yet conscious ability. The quality is fine, the face well proportioned. The shoulders and thoracic development are wonderful, and give assurance of great mental energy. The face is that of a typical mechanic of the most talented class. The projection of the brows and recession of the forehead reveals the born mechanic, and grand and accurate observer. The osseous, brain, muscular, and thoracic systems are equally and highly developed; the vegetative also asserts its power in an active manner. The lower third of the face cannot be seen; in this case we must rely on those parts that are visible; hence we know that the domestic functions and faculties are well defined. Alimentiveness, Sanativeness, Color, and Friendship are conspicuous. The beard indicates great vitality and is an accessory sign of longevity. The nose is broad, high, of proportionate length, and remarkably elaborated at the tip. It is a typical constructive nose—the nose of a *builder*. Upon it we observe the signs for Analysis, Mental Imitation, Human Nature, and Sublimity very large; while Ideality, Constructiveness, Acquisition, Veneration, Executiveness, Reason, and Self-will are highly developed. The formation of the eye-bones—the superciliary ridge—is uncommon. Here are located the signs for all of the observing or practical and mechanical traits. The eyes are deeply set; the brows show scarcely any arching; the outline of the forehead is worthy close attention, as well as the strong, broad, and compact head. The signs for Form, Size, Observation, Locality, Prescience, Weight, Time, Order, and Calculation are excessive. Credenciveness is deficient, while Memory of Events is excellent; language is not eloquent, yet fluent, practical, and clear. The forehead corroborates the signs in the nose of Causality and Comparison; Intuition is fairly developed. The ear discloses good aural capacity. The hair is straight, and the poise of the head announces Dignity, Independence, Resolution, Force, and Resistance.

The faculties of Form and Size should be excessive, and the sense of Weight, also, to enable one to judge of the qualities of pressure, resistance, etc. Calculation should be most decided to facilitate the arithmetical part of the profession. Locality is required for the purpose of memorizing and visualizing places, etc. Large Sublimity is an essential trait to enable the engineer to comprehend great and complex laws, and give the capacity for undertaking grand enterprises. Time is a useful trait, and, in connection with Order and Calculation, is a strong ally. Constructiveness must be had in order to impart ingenuity, deftness, and inventive skill. Strong Self-will and Executiveness are able assistants, and give the ability to hold on to one's purposes and assist in controlling large numbers of workmen.

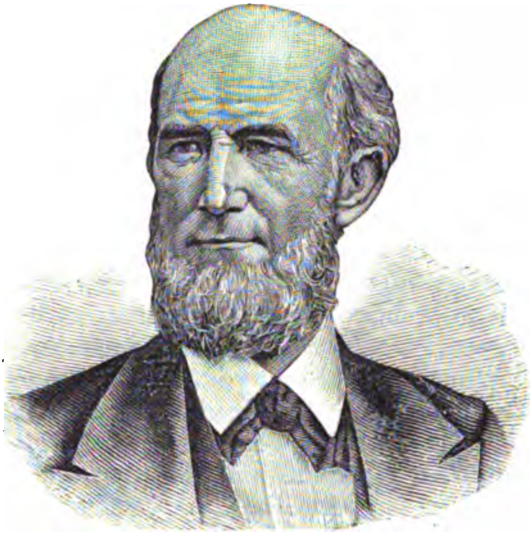

FIG. 373.—JAMES B. EADS. (CIVIL ENGINEER, INVENTOR.)

The outlines of this nose, head, and face recall to mind the physiognomies of the ancient Greek architects. In this noble countenance we observe the dominance of the brain, muscular, and osseous systems, which are highly developed and of fine quality. The thoracic and vegetative follow closely, both in amount and fineness. The position of the shoulders and thorax reveals integrity and power. The height of the top of the head from the shoulders is unusual; its uprightness speaks of straight conduct. The outline of the head describes a perfect dome. The wrinkles across the forehead show talent and *straight* thoughts. Across the root of the nose are the executive wrinkles, showing that the habit of command and authority has been long exercised. Mirthful wrinkles at the outer corners of the eyes are proofs of a cheerful disposition. The mouth shows Eloquence and Wit, as well as Mirth, Love of Young, Order, and Meditation. The chin is broad, disclosing Conscientiousness. The signs for Self-esteem and Modesty are prominently displayed; so, also, are Alimentiveness, Bibativeness, Approbation, Hospitality, Patriotism, Love of Home, Sanativeness, and Friendship. Pneumativeness and Color are conspicuous. The nose is of a pure Greek type. It is what I term an "architectural" nose, resembling, as it does, a column or pillar. It is high, long, broad, and straight. The signs for Human Nature, Mental Imitation, Analysis, Ideality, Sublimity, Construction, Acquisition, Veneration, Reason, Executiveness, and Self-will are very large. The eyes are well set under a mechanical brow, the brows close down to the eyes. The signs for Observation, Weight, Size, Form, Locality, Time, Order, Calculation, Causality, Comparison, and Intuition are highly developed. Credenciveness is deficient and Prescience about the average. The ear is large, and indicates excellent aural and commercial capacities. The area about the root of the nose is noteworthy: it shows the most talented degree of Self-will. Allusion has been made to this in the section devoted to an analysis of Self-will.

Force and Resistance are most useful, for they enable one to judge of and estimate similar qualities in mechanism; they also impart strength and resolution to the character. Large reasoning powers are necessary for the purpose of analyzing, comparing, and classifying with facility.

Many of the great and successful engineers have been mental colossi. The labors which they have performed, both within and outside of their profession, seem to be the work of supernatural beings when we come to contrast them with the labors of men in many other pursuits. The biographies of such as Smeaton, Watt, Vauban, the Stephensons, Eads, the Roeblings (father and son), Ericsson, and others, read like fairy-tales. These records are highly instructive and throw great light upon their physiognomies.

The master-minds in all of those departments of labor which require a knowledge of mechanical principles, such as engineering, invention, and architecture, possess vigorous bodies. A man with feeble physical powers could not perform the duties appertaining to the planning and superintending of a work like the bridge over the Niagara or the erection of a building like the Capitol at Washington. Such works entail the most profound and prolonged meditation, as well as manual labor, in draughting the plans, selecting men and materials, impressing upon others the importance of the work, inspiring confidence, and imparting courage and enthusiasm to those who furnish the means, and in many ways not directly connected with the profession must the great engineer use his strength.

Above and beyond all other powers required by the engineer is the faculty of Conscientiousness,—not alone for the moral power which this trait exhibits, but it is necessary as well to the comprehension of the great underlying laws of mechanics, which in their expression are types of the laws which govern the world, hence are founded on *absolute* truth and integrity.

An equilibrated condition of mind and body is essential to the engineer, for, as the fundamental principle of all structures is equilibrium, so a man, in order to produce this condition in machinery, must possess in his own organism a large share of this most necessary principle.

With this description of the structure of a civil engineer I present the physiognomy of Colonel Washington A. Roebling, who, with his father, was engineer-in-chief of the Brooklyn Bridge, and also that of Captain James B. Eads, the engineer who planned and built the Missouri Bridge, the New Orleans jetties, and other grand structures. These two very dissimilar countenances are typical faces: that of Captain Eads is the countenance of an architect as well as that of a mechanical engineer, while that of Colonel Roebling is a purely mechanical type; the outline of the forehead alone announces this phase of character.

THE SYSTEMS AND FACULTIES REQUIRED BY A BANKER.

In order for a man to succeed in any pursuit he must have the mental aptitudes and bodily organization suited to that pursuit. This postulate can be verified by collecting the portraits of any number of those engaged in a given trade or profession, and it will be found that the majority are similar in the formation of features as well as in bodily structure. So true it is that form and faculty are allied that it has been noted in all ages and expressed by philosophers of all nations, yet without the scientific basis and analysis which alone make observations valuable. Many persons dissimilar in form and function acquire by long-continued thought in similar directions the same expression of face, the same walk, attitude, voice, gestures, and mannerisms. Emerson, our great observational philosopher, had remarked this, for he tells us that

> Each religious sect has its physiognomy. The Methodists have acquired a face, the Quakers a face, the Nuns a face. An Englishman will pick out a dissenter by his manners. Trades and professions carve their own lines on face and form.*

The love of acquisition of material things, where it amounts to a talent, must be so strongly impressed upon the form, and consequently upon the features, as to reveal its power to those who know how to translate form into character. When we inquire which races and nations have had the most eminent success in gaining wealth, we shall find that the Hebrew race and the English nation are the best endowed with the instinct of commercialism.

This question being settled, we come then to the observation of the *forms* which the majority of these people exhibit. We shall find that an immense majority of them are characterized by *breadth*, by relative shortness of stature, and by a dominance of the vegetative functions and muscular system, as well as by a high development of the *muscular organs*, viz., of the heart, stomach, and reproductive system.

The superior development of these functions produces a *relatively* short and broad structure, and, according to the basic laws of Form, breadth means strength and shortness indicates a less mental and more of a *material* phase of intellect. From this analysis we deduce the fact that those engaged in the acquisition of material wealth by virtue of congenital ability would be of the broad and short build, with a head, face, and features to correspond; and this is what we find to be the case when we come to generalize, and by this method we see that the great bankers of the world are broad and relatively short men. The Rothschilds, Hebrew bankers of Europe; George Peabody, of London; Roswell P. Flower, of America, and many others, illustrate this principle of form and faculty.

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* English Traits, R. W. Emerson, p. 54.

The banker requires a large degree of Conscientiousness, Firmness, Economy, Love of Young, Patriotism, Benevolence, Alimentiveness, Approbation, Friendship, Hospitality, Sanativeness, Color, and Self-esteem. He requires all these in order to give vigor to his mental processes, to impart those domestic sentiments which are essential to one whose nature is based upon the material things of life, and because these vegetative functions and domestic sentiments are inseparably bound together.

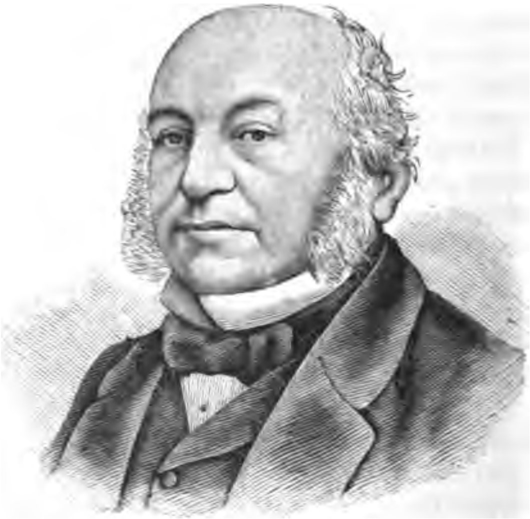

FIG. 374.—ANTHONY ROTHSCHILD. (BANKER.)

In this portrait we find all the elements which go to make up a successful financier. The face is one of the best types of the Hebrew commercialist. The distinguishing form of the outline is *breadth*,—roundness,—thus evidencing a vigorous visceral organization as well as a comprehensive judgment. In the chin the signs for Firmness, Conscientiousness, Love of Home, Patriotism, Alimentiveness, Economy, and Bibativeness are well delineated. The mouth is wide, denoting good digestive capacity and linguistic talent. The signs for Benevolence, Love of Young, Amativeness, Mirth, Approbation, Hospitality, Friendship, Modesty, and Self-esteem are conspicuous. Sanativeness and Pneumativeness are decidedly developed. The nose is broad, straight, and of an equal thickness its entire length; upon it the signs for Caution, Sublimity, Human Nature, Ideality, Construction, and Acquisition are supreme. Veneration, Reason, Executiveness, and Self-will are strong allies. Form and Size are remarkably developed. Observation and Locality are excellent, while Calculation is of the highest grade of power. The forehead shows corroborative signs of Commercial Judgment, together with large Memory of Events and Intuition. To sum up the entire *personnel*, we may say that this character is social, domestic, and commercial, and possessed of æsthetic tastes, love of music, painting, and sculpture.

The banker should have Force, a good share of Secretiveness, Caution, and a moderate degree of Hope. He needs Sublimity to enable him to comprehend and invest in large enterprises. He requires Human Nature, large Acquisition, Construction, Executiveness, Self-will, not too much Credenciveness, a good degree of Size, Form, Locality, Weight, Time, Order, Memory of Events, large Calculation, and excellent reasoning powers.

A delineation of Anthony Rothschild, banker, one of the members of the most extensive banking-houses in the world, is here given. It is a typical face. and will well repay a careful analysis.

THE SYSTEMS AND FACULTIES REQUIRED BY A PHILANTHROPIST.

There are very many diverse phases of the sympathetic faculty, some of which require only the most ordinary grade of intellect to exhibit activity. Many persons *feel* sympathy for others, yet fail to take active steps to relieve them. There is one class of sufferers that require only that others listen to or witness their grief in order to satisfy and relieve them. Others in need feel the want only of some comparatively inexpensive assistance. There is a class of persons everywhere to be found who are competent to deal with this form of suffering.

And thus, for every grade and shade of human misery we shall find that Nature has provided a person or class of persons competent to sympathize with, understand, and relieve each of these several forms of want and suffering.

The philanthropist is one who has the capacity to ameliorate the condition of *large numbers* of his fellow-beings; it follows, then, that he must have within his own organization not only the requisite degree of sympathy to impel him to action in the direction of relief, but he must have also an intellect sufficiently broad and comprehensive to understand the conditions which afflict so generally large numbers of human beings, and possess sufficient ingenuity to devise ways and manage the large funds which are required in all grand philanthropic schemes. Philanthropists are subdivided into classes. One portion of them pass their time in accumulation, and leave their millions to found some grand charity after their demise, as did Stephen Girard, who has endowed probably the most magnificent charity (and one which contains in its provisions all of the elements of perpetuity) that has ever been devised.

Another class of philanthropists, like George Peabody, Count Rumford, and Leland Stanford, prefer to administer upon their accumulations before death, and enjoy the luxury of seeing the good which their gains can accomplish. Now, the ability to plan and carry forward such large schemes as these men have matured requires the exercise of high administrative capacity; hence, the philanthropist who endows and manages a great institution for charitable purposes is necessarily great in both sympathy and intellect, and therefore we find in this class a form in consonance with these qualities.

In corroboration of this statement, study the *personnel* of Matthew Vassar, who founded and endowed Vassar College for Women, and of George Peabody, whose endowments and philanthropies are as cosmopolitan as they are varied. John Howard, who was a practical philanthropist and reformer, also exhibited a broad and robust frame. M. Godin, who founded the celebrated *Familistére* in Guise, France, is still another example of the practical philanthropist. The name of Wilberforce should not be omitted in this connection. There are many others who belong

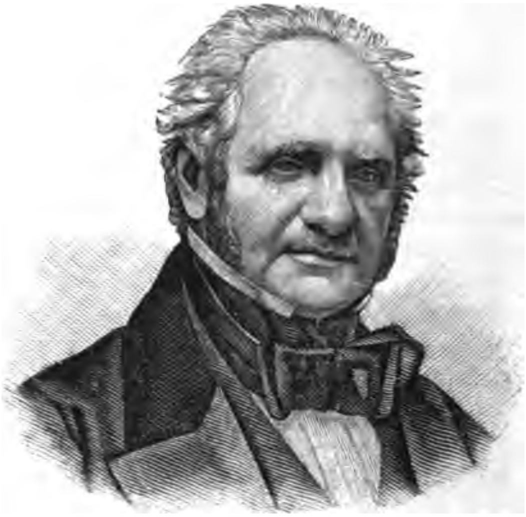

FIG. 875.—GEORGE PEABODY. (BANKER, PHILANTHROPIST.)

The brain in this subject is high and broad and reveals fine Quality; the muscular and thoracic systems rank second. The chin is also wide and the nose is both broad and high. The space between the eyes is uncommonly wide. All of these circumstances, summed up and proved by the basic laws of Form, show us that we have a very comprehensive mind to deal with. The chin discloses large Conscientiousness, Firmness, Love of Home, Patriotism, and Economy. The signs for Benevolence, Love of Young, Amativeness, Mirthfulness, Friendship, Hospitality, Color, Pneumativeness, and Sanativeness are all prominently displayed. The nose is a feature seldom met. It is constructive, acquisitive, logical, and executive; upon it the signs for Mental Imitation, Human Nature, Sublimity, Ideality, Constructiveness, Acquisitiveness, Veneration, Reason, Executiveness, and Self-will are all conspicuous. The eyes are those of an observant and thoughtful man; the brows, lowered close down to them, show their practical inclination. The capacity for Form and Size is very great. The signs for Observation, Memory of Events, Locality, Time, and Order are well defined. Verbal Language is about average, while the ability to express thought by the pen in an earnest, clear, and elegant manner is manifest. Calculation is fairly represented. The indications of the reasoning powers in the forehead corroborate those in the nose, and declare Causality and Comparison to be of the best. Intuition is one of the leading traits of this character. Credenciveness is small and Prescience above the average. The ear discloses aural, commercial, and acquisitive capacity. The position of the head shows the attentive thinker. This gentleman endowed several large libraries, homes for working-people, and other charities on a magnificent scale. He was also a very successful banker.

to this class whose *form* and *features* correspond to the foregoing description.

In order to give we must first possess, and these possessions must be either mental or material, or both. The philanthropist, then, must have the *power to acquire something*, either mental or material treasures, earthly power or position, which will enable him to act for the good of others.

This analysis shows us what is the best form for a philanthropist, and what faculties he must possess in order to successfully carry forward his plans for the relief of the masses.

The man of broad sympathies requires large Conscientiousness and Firmness; Love of Home, of Country, and of Young. Benevolence, Friendship, Approbation, Alimentiveness, Pneumativeness, and Sanativeness are required to give vigor to the body and to evolve the domestic traits. There must be large Human Nature, Constructiveness, Acquisitiveness, Executiveness, Self-will, Time, Order, Calculation, and large reasoning powers. To all of these great good health must be added in order to *personally* and actively superintend the schemes, institutions, and operations which philanthropy devises.

There are many diverse manifestations of the benevolent and sympathetic feeling, and these various forms of feeling are exhibited in other ways than by philanthropy. This is the highest or largest expression of sympathy. The faculty of Benevolence, under its various aspects, has been elaborated in Chapter II.

THE SYSTEMS AND FACULTIES NECESSARY TO A PHILOLOGIST.

The science of language is receiving in this age a great deal of attention, and from a stand-point radically different from that which characterized its study in the past. Its scientific phase is now being developed, hence its investigators require special and high faculties.

The scientific analysis of the languages of the various races of the world, both ancient and modern, is throwing a flood of light not only upon their racial descent, their habits, customs, and status in progressive evolution, but it is also giving a fund of information as to the form and structure of man. The study of philology, taken in connection with scientific physiognomy, will carry forward the science of language with rapid strides, and I predict that, with the universal knowledge of physiognomy and the application of its principles to all other departments of human science, a wonderful advance in all of them will be made.

There are so many departments of language that a great diversity and variety of students is required to investigate its many phases.

The study of the structure of language is a fascinating though ofttimes baffling pursuit. The tracing to their origin certain verbal forms is a part of this study, the comparison of sounds and of inflections another branch, and the memorizing of language, both spoken and written, still another department. Each of these requires the use of distinct faculties, and one who would combine all of these studies must possess certain inherent aptitudes.

The philologist, then, must possess a large endowment of the brain, muscular, and osseous systems of fine quality. He must have sufficient of the thoracic to aid him in comprehending and making natural pauses, intonations, and inflections, and enough of the vegetative to impart vigor to his mind in order that his deductions shall have a sound basis, which a large quantity of well-oxygenated blood can alone supply.

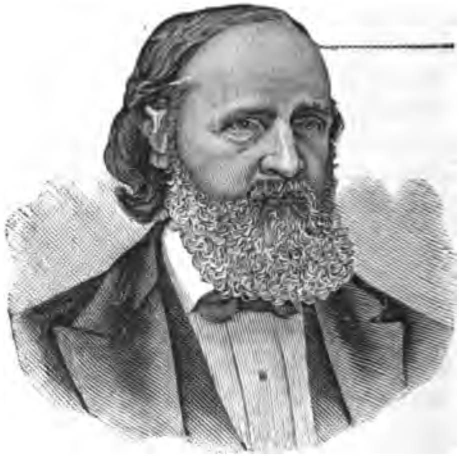

FIG. 376.—WILLIAM DWIGHT WHITNEY. (PHILOLOGIST, AUTHOR.)

The countenance of this subject bears the expression of thought, observation, and patient perseverance. The well-nourished appearance of the cheeks shows that Friendship, Sanativeness, Alimentiveness are normal, and that the vegetative system is well developed. The beard discloses vigor. The brain system is dominant, while the thoracic, muscular, and osseous systems are equally developed. In the nose the signs of Mental Imitation, Ideality, Human Nature, Constructiveness, Acquisitiveness, Veneration, Reason, Executiveness, and Self-will are conspicuous. Prescience is well defined. Credenciveness is deficient, while Form, Size, Locality, and Observation are manifest. In the forehead the sign of Memory of Events is excessive, and the faculty of Constructiveness has corroboration in the rounding out of the lateral portion of the forehead. The eyes are relatively small and deep-set, and indicate that the capacity for written language exceeds that of oral language,—evinces, in short, that the subject can write and think better than he can talk. His works on philology are practical, and show deep research and a comprehensive intellect.

The mental faculties required by the student of language are Mental Imitation, Analysis, Ideality, Sublimity, Human Nature, Constructiveness, Acquisitiveness, Reason, Veneration, and Self-will. The practical traits needed are Form, Size, Locality, Observation, Language, Time, Order, Music, Calculation, and Intuition.

To all of this there must be brought the most unflagging energy, patience, perseverance, and a determination to succeed. The labors of such as Worcester, Webster, and Johnson in one department of philology have been of incalculable benefit to millions, and will descend to posterity to aid its efforts to remote ages, while those of Max Müller and Professor Whitney in another branch of Language will ever be remembered with gratitude by all who can appreciate their labors.

THE SYSTEMS AND FACULTIES ESSENTIAL TO AN EDITOR.

If one were to examine the physiognomies of a group of, say, twenty editors, one would be inclined to say that it would be necessary to give a description of each one separately in order to arrive at a knowledge of editorial capacity. Editors, like musicians, are of many diverse forms and of all nationalities, yet to the *practical* physiognomist they exhibit, as do musicians, certain indications in common. They require, and all successful editors possess, certain general characteristics which fit them for their career. There are certain individualities which distinguish each one of them—a peculiar mode of expression or of management which comes to be recognized by their readers. All these are as distinctly individual as are their respective physiognomies. It is true that editors, like all other professional people, are graded in classes according to the sort of newspapers which they publish. Some publish religious journals, others secular; others dramatic or musical, or humorous or illustrated papers. Some of these require certain traits which the others do not, yet all must have, to be successful, good health, a well-developed domestic nature, a good mental endowment, together with a fair degree of scholastic knowledge. To all this the editor must add a knowledge of current literature. If he write for a religious journal he must be conversant with the theological knowledge of all eras; if for a political paper, he must possess a comprehensive knowledge of the politics and politicians of his country, past and present, with all their measures and movements. If he edit a musical or dramatic paper, then he must be familiar with all that pertains to these two realms of art.

All editors require a good general memory of facts, dates, and occurrences. A knowledge of the biography of all sorts and conditions of people is necessary. A large acquaintance with public men and women is essential. A gift of Language, with power to use it in an original, brilliant, forcible, or witty manner, is one of the essentials of a popular editor. He must have Mental Order and Time in a large degree, and for a musical journalist the

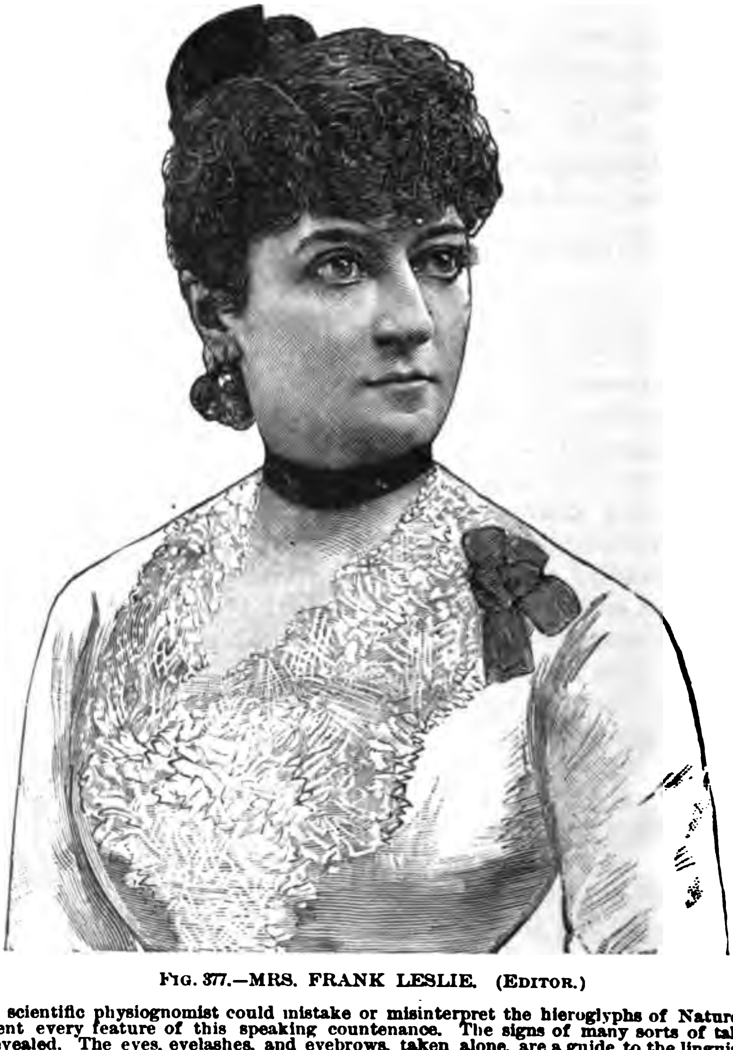

FIG. 377.—MRS. FRANK LESLIE. (EDITOR.)

No scientific physiognomist could mistake or misinterpret the hieroglyphs of Nature which ornament every feature of this speaking countenance. The signs of many sorts of talent are here revealed. The eyes, eyelashes, and eyebrows, taken alone, are a guide to the linguistic and emotional part of the character. The muscular and brain systems are supreme, the thoracic and osseous systems stand next in rank, while the vegetative powers lend their aid in such degree as to enrich both the domestic and social sentiments, as well as to produce a vigorous physique. The chin and lower jaw are artistically curved, disclosing artistic tastes. The signs for Conscience, Firmness, Benevolence, Love of Home and of Young. Amativeness, Alimentiveness, Mirthfulness, Approbation, Friendship, Hospitality, Pneumativeness, Sanativeness, Color, Modesty, and Self-esteem are all conspicuously displayed. There is a good share of Force and Resistance. Cautiousness is large and Secretiveness normal. The nose discloses great capacity of several sorts: it is artistic, commercial, and executive. The signs of Hope, Analysis, Mental Imitation, Human Nature, Ideality, Sublimity, Construction, and Acquisition are all conspicuous; so, also, are Veneration, Executiveness, Reason, and Self-will. The mechanico-artistic signs are large. Form, Size, Observation, Calculation, and Language are excessively developed. This subject has capacity for art and literature as well as for finance and exhibits great administrative powers. The mouth and eyes announce talent for Language, both verbal and oral. The size of the nose reveals force of character. The hair is waving—another æsthetic symbol. Altogether, the physiognomy of a social, domestic, literary, and able woman. Her talents are well suited to her great life-work—editing illustrated journals.

faculties of Music and Time are necessary. For the editor of an art journal the faculties of Form, Size, and Color are requisite. Cautiousness is useful, yet Energy and Force must be exhibited on all questions requiring them. Mirthfulness in a large degree is needed by the humorous writer, and, if the editor manages a paper as well as writes for it, he must have good executive powers. Added to all of these many gifts, he must exercise untiring energy and manifest a desire to lead and excel. Lazy or spasmodic writers seldom succeed or become popular unless they possess genius. In these days the plodding, persevering writer (if he have a fair talent or aptitude for journalism) is the one which makes the strongest and most permanent impression upon the public mind.

With this analysis I take pleasure in presenting the physiognomy of Mrs. Frank Leslie, a most able and successful editor of several illustrated journals.

THE SYSTEMS AND FACULTIES REQUIRED BY A WRITER OF FICTION.

The prevailing opinion among people generally is that writers of fiction—and, indeed, all writers—require only brain development, including a large degree of imagination, in order to produce their works. That a good and suitable brain system is required is true, but that a fine and large brain without suitable bodily functions to *assist* emotion and *create* sentiment could produce a touching and popular work of imagination I do not believe.

The writer of fiction, then, requires a suitable brain and sensitive nervous system in order that he may be keenly sensitive to all external influences. He requires a fine muscular endowment in order to *express* emotion and passion. He must have a fair amount of osseous material to give coherence and stability to his thoughts; also a fine degree of the glandular powers to *produce* emotion. He needs the warmth and enthusiasm which arise from thoracic activity and all the fervor and enthusiasm which Color imparts. A large and active liver is essential to produce *clearness* of mind, analytical power, and fertility of suggestion. The proof that all these functions are necessary to writers of fiction is found in their facial development.

In order that a writer of fiction shall be not only popular and successful, but that his works shall find a *permanent* place in the regard of the public, very many high faculties are essential. In the first place, he requires a broad and warm, sympathetic nature. The *domestic* faculties must be as well developed as the purely mental capacities, for his success is owing largely to his skill in portraying the tender emotions and domestic sentiments, and, in order to do this well, he must *possess* the *capacity* for feeling the same. Therefore, a writer of fiction must have strong Love of Home, of Young, and of the opposite sex. The latter trait is large in all of the great original writers, for this faculty assists *creative efforts*. A love of young is needed particularly by those who write for children, as it enables them to enter into the feelings and comprehend the characters of youth. A certain degree of Conscientiousness is required to give thoroughness to the work, and to imbue the character of the writer with the power to feel in order to portray the like quality. The faculty of Benevolence is requisite; also Hospitality, Approbativeness, Friendship, Modesty, and a certain degree of Self-esteem. Large Mirthfulness is very essential. The development of all these sentiments is dependent upon normal and sound visceral organization, and this the writer must

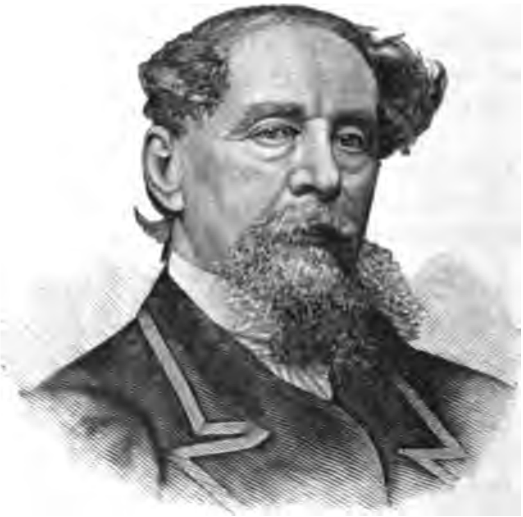

FIG. 378.—CHARLES DICKENS. (NOVELIST.)

The subject of this slight sketch possessed all the elements of character essential to a popular and successful novelist. The brain and muscular systems are supreme and of fine quality. The vegetative powers are exceedingly well developed, and created the lovely social and domestic sentiments wrought out in his works. The local signs for certain of these faculties are hidden by the beard, but Benevolence and Amativeness are visible and very well defined. The signs for Alimentiveness, Hospitality, Approbation, Friendship, Mirth, Sanativeness, Color, and Self-esteem are conspicuous. The nose is relatively short and broad and muscular, mainly—the artistic type; upon it one discovers the signs of Hope, Analysis, Human Nature, Ideality, Mental Imitation, Constructiveness, and Acquisitiveness all well defined. Veneration and Executiveness are not large, while Self-will is excessive. The signs for Form, Size, Observation, and Locality are all large. Calculation is deficient, Credenciveness average, Prescience lacking, Verbal Language well represented. The forehead is broad and curved laterally (corroborative sign of Constructiveness). The signs for Mental Order, Time, and Music are manifest. The face reveals capacity for deep feeling, both social and domestic, and herein lay Dickens' greatest power. The ability to express in language the domestic and social life and feelings of his characters is shown throughout his works, and constitutes the bond of sympathy between them and his reader. Abstract Reason was not his gift. The signs for Artistic Reason and Intuition are discernible. As a character-painter of certain phases of life he is unexcelled.

have, not only to enable him to feel and portray these sentiments, but also to give the strength and vigor necessary to sustain the exhausting play of the emotions which the writer of dramatic poems, plays, and novels must experience in order to reproduce them upon paper.

The *mental* requirements of the imaginative writer are many and varied. He must have excellent analytical power, large Ideality and Sublimity, Human Nature in excess, large Constructiveness and Acquisition, a modicum of Veneration, and executive capacity in order to impart the same feelings to certain characters, and strong Self-will as well. The faculties of Form and Size must have a strong representation in order that he may *visualize* clearly and describe well his imaginary forms and figures. Color is essential,

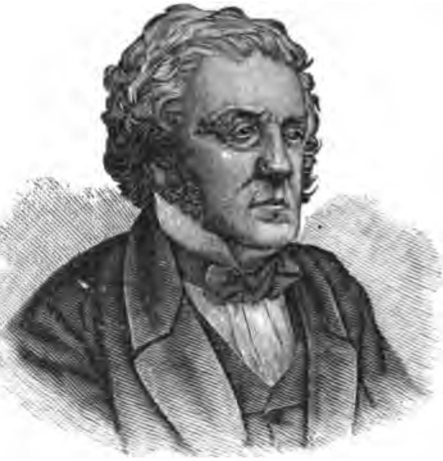

FIG. 879.—WILLIAM MAKEPEACE THACKERAY. (PAINTER, NOVELIST.)

I would that I could present the living countenance of this subject to my readers, for in it could be read at a glance the *constructive* character of every feature. The curving jaw and chin announce dramatic ability; the upper lip, Love of Young and Amativeness, both of which assist creative efforts. The thick, constructive nose is the very acme of mental and artistic creation, and the rounding temples furnish corroborative evidence of originality. The brain and muscular systems are dominant, while the osseous and thoracic follow closely in development, and a good endowment of the vegetative powers gives their quota of physical strength and domestic sentiments. The signs for Firmness, Conscience, Love of Home, Patriotism, Economy, Benevolence, Approbation, Hospitality, Alimentiveness, Friendship, Self-esteem, Modesty, Love of Young, Mirth, and Amativeness are well defined, and together form the foundation for a strong domestic and social nature. Pneumativeness, Color, and Sanativeness are strongly indicated. The nose is a remarkable feature, being long, wide, and high, and nearly straight in its outline. The signs for Ideality and Human Nature are large; Constructiveness, pre-eminent. Acquisition, Veneration, Reason, and Executiveness are conspicuous, while Self-will is a strong ally. Form, Size, Locality, Observation, and Weight are decided, while Credenciveness and Prescience are only moderate. Time, Order, and Language are manifest. Memory of Events and Intuition are strongly delineated. The hair is wavy—a secondary sign of artistic capacity. This gentleman was an excellent painter, and might have excelled in that direction had he persevered in it. His style of delineating character differed from Dickens' in this: he was satirical and exaggerated, while the latter put more humor into his caricatures, and both treated of the follies, weaknesses, and excellencies of character with the pen of an artist. For the scientific and psychological analyses of Human Nature we must look elsewhere.

that he may use color-terms in his descriptions. A good degree of Locality, Credenciveness, and Observation is necessary. Language, most fluent and ornate, must be cultivated and exhibited. A sense of Time and Mental Order is very useful. Artistic Judgment or Reason, as well as Intuition, are strong factors in the mental equipment of the imaginative writer.

I take great pleasure in presenting herewith the portraits of Charles Dickens and William Makepeace Thackeray, two of the best-known English novelists. Both of these men were wonderful physiognomists, as their descriptions of character attest. That Dickens understood, in an *artistic* way, the association of form with character, the following description of the form and mental methods of "Gradgrind" will prove:—

> "Now, what I want is Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else and root out everything else. You can only form the minds of reasoning animals upon Facts; nothing else will ever be of any service to them. This is the principle upon which I bring up my own children, and this is the principle upon which I bring up other children. Stick to Facts, sir!"
>
> The scene was a plain, bare, monotonous vault of a school-room, and the speaker's square forefinger emphasized his observations by underscoring every sentence with a line on the schoolmaster's sleeve. The emphasis was helped by the speaker's square wall of a forehead, which had his eyebrows for its base, while his eyes found commodious cellarage in two dark caves overshadowed by the wall. The emphasis was helped by the speaker's mouth, which was wide, thin, and hard-set. The emphasis was helped by the speaker's voice, which was inflexible, dry, and dictatorial. The emphasis was helped by the speaker's hair, which bristled on the outskirts of his bald head—a plantation of firs to keep the wind from its shining surface—all covered with knobs, like the crust of a plum-pie, as if the head had scarcely warehouse room for the hard facts stored inside. The speaker's obstinate carriage, square coat, square legs, square shoulders—nay, his very neckcloth, trained to take him by the throat with an unaccommodating grasp, like a stubborn fact as it was—all helped the emphasis.
>
> "In this life we want nothing but Facts, sir. Nothing but Facts. Thomas Gradgrind, sir. A man of realities. A man who proceeds upon the principle that two and two make four and nothing over, and who is not to be talked into allowing for anything over. Thomas Gradgrind, sir! with a rule and a pair of scales and the multiplication table always ready in his pocket to weigh and measure any parcel of human nature and tell you exactly what it comes to."

In this portrait and analysis the scientific physiognomist recognizes a man with the bone and brain systems dominant and the muscular and vegetative systems not ranking so high as the former. This combination would exhibit great Probity, Practicality, Precision, and Order, with but scant Ideality or Imagination. It also produces angularity—squareness—without balance or rounded or curvilinear ideas. There is no doubt that Dickens had met with a man of this square or angular formation, with his precise and "rectangular" method of talking, and, with his *penchant* for caricature, had exaggerated his peculiarities in the character of "Gradgrind."

The descriptions of the forms, faces, color, and stature of the creatures of imagination by talented writers of fiction, from Shakespeare down, are of great interest to the physiognomist, as showing that the faculty of Human Nature is one of their strongest powers. The scientific analyses of characters by George Eliot and Balzac are well worthy our attention.

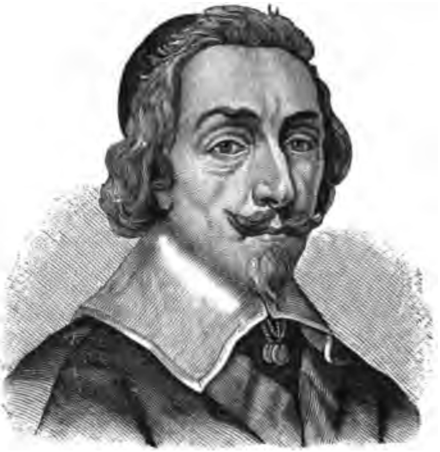

FIG. 880.—ARMAND RICHELIEU. (CARDINAL, DUKE OF FRANCE, STATESMAN, AUTHOR.)

This countenance discloses great capacities, superstition, craft, knowledge of human nature, and large reflective powers. It is the face of a typical sixteenth-century politician. Every feature reveals power. The chin, by its form, denotes cunning, craft, and wit, with Firmness large and Conscientiousness only of average development. The under lip shows a fair degree of Benevolence. The upper lip indicates large Amativeness. The nose is a grand feature, and reveals, at first glance, the secret of his power. The eyes, the superciliary spaces, the eyebrows, and forehead are all remarkable features. The brain system is dominant and of high quality, the muscular takes second rank, the thoracic follows a close third, while the osseous system is next in degree. The signs in the nose are all well defined: Cautiousness, Hope, Analysis, Human Nature, Mental Imitation, Ideality, Sublimity, Construction, Acquisition, Executiveness, Veneration, Logical Reason, and Self-will are developed in such large degree as to form a most unique organ, and indicate great mental powers and administrative capacities of the first rank. Form and Size are very large: so, also, are Prescience, Credenciveness, Calculation, Locality, Observation, Language, Order, Time, Memory of Events, Reason, and Intuition. The size and form of the nose indicate Mental Force and Resistance, as well as a love of domination.

Fiction has its place in the development of character, and in this age exercises a powerful influence upon the community. Its creators are receiving that attention which they justly deserve.

THE SYSTEMS AND FACULTIES REQUIRED BY A STATESMAN.

As the construction of society and governments change, the requirements of those who are to rule, govern, and administer the laws must also move with the onward march of progress.

The statesman required by a mediæval monarchy would not be the best suited to a modern kingdom, and certainly not to a modern republic. Again, the several departments of every government must have men suited to the needs of each; hence, it is clearly proved that statesmen may be of many forms and possess a great variety of faculties, differing in kind and degree. Yet, with all these differences, they must exhibit many traits in common. A statesman needs, in the first place, a broad and comprehensive mind, well filled with facts and data of many sorts, and a large knowledge of his country's laws and history, as well as a complete knowledge of the structure of other governments. He must have a sound judgment in practical affairs, together with a strong sense of equity. Large executive powers must be his, and a strong constitution and great good health. He requires large Firmness, Conscience, Patriotism, Love of Home, Alimentiveness, Amativeness, Friendship, Pneumativeness, Sanativeness, a good share of Force and Resistance, large Self-esteem, considerable Caution, and a due amount of Secretiveness. He requires Sublimity to give breadth to his ideas and ability to cope with vast subjects. He must have Acquisitiveness, Constructiveness, Human Nature, Veneration, Executiveness, and Self-will; not too much Credenciveness; a good development of Size, Form, Observation, Memory of Events, Locality, Time, Order, Calculation, Causality, and Comparison.

To be a great statesman—such as Webster, for example—requires a gift of eloquence, as well as a comprehensive knowledge of laws, a well-stored mind, and familiarity with administrative customs.

A great statesman is a benefactor to the human race, for he will act disinterestedly for the highest good of all: he will sink his own personal interests in his efforts for humanity.

CONCLUSION.

In concluding this (to me) very pleasant work, I take leave of the subject with regret, for the reason that there is so much more that might have been written left unwritten. It is the misfortune of all sciences that no book is large enough to give them full representation. This is eminently true of the science of physiognomy. It necessarily includes *all sciences*, and in order to give it scope one must interrogate the principles of many other allied systems of science. The subjects of ethnology, evolution, heredity (yet in embryo), and hygiene are properly a part of physiognomical lore. I have not been able, through want of space, to give these subjects the attention which they deserve in this connection. I advise those of my readers who wish to become *thorough students* of physiognomy to familiarize themselves with all of these studies.

They are a part of human science and will greatly aid in the comprehension of character.

The reader will have discovered, I opine, that the knowledge of physiognomy reveals something more than merely a method of reading character by local signs in the face. It leads out in many directions. A system which gives a practical method of reading character by facial indications is a *great advancement* in knowledge. This discovery of itself forms an *epoch* in physical science, and if this were *its only use* it would be a most wonderful stride forward, but this is only the beginning of its power and usefulness. The capacity to read the face creates the ability to *adapt*, and to be able to know the characters best adapted to each other in marriage, for example, is one great step forward in progressive evolution—in the *scientific culture* of the race. The laws of adaptation, as applied to marriage, tend directly to race improvement; hence, to better physiques, to a larger life, grander qualities of mind, and higher morality.

These are not the only uses to which physiognomical science can be turned. The ability to decide accurately the trade or profession to which one is *best* adapted is another grand use which can be made of this science. It teaches how to work *with* Nature in the choice of pursuits, instead, as heretofore, of leaving one to grope in ignorance of his powers until youth and opportunity are past.

The conservation and economizing of all our powers, both mental, moral, and physical, is another grand lesson which it teaches.

The development of all sides of the character, with directions how to improve the stronger and strengthen the weaker faculties of mind, are herein set forth.

The methods to pursue in order to improve the beauty of the face, the body, the disposition, and the intellect are by this system made known.

To be able to use this science to produce all these effects is to give the ability to create the grandest types of man possible. This power then, thus used, disproves the erroneous charge that science tends to *fatality;* that because one is born with a peculiar bent of mind and with a certain-shaped face and body he is therefore destined to a certain fate from which he cannot extricate himself. Were man not the most malleable being in existence this charge might have some foundation. It is true that a human being can best pursue the path or direction which is the most decidedly exhibited in his organization; but this does not preclude the possibility of changing that bias radically, and of successfully following a direction very different to the one inherited.

The knowledge of how scientifically to accomplish this, if practically applied, does away with the false charge of "fatality," "destiny," "predestination," etc., brought against science by those who lack the ability to comprehend or the industry to investigate the laws of Nature.

The every-day experiences of parents and teachers prove that often the most hopeless children, when brought under the influence of superior conditions, have become men and women of great promise. How much more rapidly might the work of cultivation be carried forward if an accurate method could be applied to ascertain the strength and weakness of the child without having first to experiment! This method scientific physiognomy furnishes.

Viewed in every aspect, physiognomy will be found of use to mankind. It is with the purpose of elevating humanity that I have attempted the task of giving to the world the observations which I have been a life-time in making. It is a labor of love, offered in a true missionary spirit, the knowledge of which will protect the innocent by unmasking the vicious.

APPENDIX TO PART I.

APPENDIX TO PART I.

ORIGIN AND EVOLUTION OF THE VISCERAL ORGANS AND FACIAL FEATURES.

"Systematic physiology is based especially upon the history of development, and unless this is more complete it can never make rapid progress, for the history of development furnishes the philosopher with the materials necessary for the secure construction of a system of organic life. We should study each organ, each tissue, and even each function, simply with the view of determining whence they have arisen."—HUSCHKE.

IN viewing the beautiful ideals of art, as shown by the sculptured marbles of the great masters of ancient Greece; in regarding the beauteous blending of color and imagery, as exhibited in the works of Titian, Correggio, and Michael Angelo; in beholding the grand and sublime efforts of some impassioned orator, or in contemplating the wonderful mechanism brought into existence by the creative mind of a master inventor, the thoughtful observer will, no doubt, ask himself these questions: How has man become possessed of the varied powers necessary to the perfecting of all these creations? Did he come into existence fully equipped, like Minerva from the brain of Jupiter, and endowed with all the faculties essential to these operations? No, reader! Nature produces no miracles; in her domain orderly, progressive, unerring, infallible law is the method by which perfection is attained.

This is as true in the department of Sociology as of Biology, and governments go forward only as fast as the people are prepared. This preparation is also a matter of growth and development, and society moves forward on fixed lines, presided over by immutable laws. There are no miracles in Nature, and no retrogression. All who have gazed upon the pictured representations of the native Australians, or those who have visited them in ther own habitat, have, no doubt, observed in their organisms the absence of certain faculties and certain functions. The muscular system is seen to be very defective, as evidenced by the lack of muscular development in the calves of the legs, in the arms, and in the entire body. (See Fig. 4, page 65, Native Australians.) The faculties which derive their power from this system are, consequently, lacking in this people.

The architectural, artistic, literary, and mathematic powers are entirely wanting. Their rude habitations cannot compare in architectural skill with the buildings of the ant, wasp, mole, or beaver. You may say that they have speech, and that speech is a "divine gift." How, then, does it occur if these people are "divine"—the children of God, above and beyond all the lower animal creations, and endowed with the so-called "divine gift" of speech—I ask, how does it occur that these people are so undeveloped as not to compare, in natural intelligence, with some races of dogs, for example?

Is it because they have had no education—no schools, churches, hospitals, and jails, and other concomitants of civilization? Not at all; these would be as useless to them as clothing, houses, and furniture. They are incapable of further development. Their language alone would prevent their progress, since it is, like themselves, in its infancy; they speak in guttural monosyllables, like babes when they first essay speech. Theirs is a condition of arrested development; they have become paralyzed, ossified; they can go no further, and will die out, for when progression ceases annihilation results. The conditions requisite for the growth of this race were absent for ages. They developed without admixture of other blood, and this alone produces stagnation. They occupied what may properly be termed an island home, where no great beasts ranged to invite the force of man to their destruction. This one circumstance prevented their advance by impeding muscular development, and without the development of the muscular system the grandest achievements of civilization are impossible.

Those who have followed the course of this system of physiognomy will have seen how many beautiful faculties are evolved from the muscular system—how many depend upon its perfection and dominance. Mechanism, art, commerce, sentiment, and social life find in the high development of the muscular system their best illustration. Blot out from the human organism all these, and what remains? An organism incapable of further evolution, because Nature never leaps, and cannot progress except in her regular order. If the muscles have not been properly developed, the functions and faculties which are related to the muscular system will not make their appearance, and the bone and brain systems will not be perfected. Hence, annihilation will follow any race that does not move according to the laws and requirements of evolution.

How do we know the methods of Nature in regard to man's evolution? There are four sources from which we derive this knowledge: Comparative Anatomy, Physiology, Evolution, and Embryology. These sciences write the history of man's development in living letters. The means of obtaining this knowledge are in existence in the world at the present time. The profoundest minds of the age are turned to the investigation of the origin of man and of his mind; it is reasonable to conclude that they will bring forth results of their investigations in the shape of proofs. This they have already done to some extent, and, by the vast researches of one man alone—Ernst Haeckel—we are able to trace the evolution of races, and of the organs of animal and human organisms.

My theories of the nature, origin, location, and meaning of the several organs, functions, and faculties of the human mind and body have been shaping for years. I have refrained from putting them forward, because I knew that, on account of their novelty, they would be subjected to severe and adverse criticism; because, also, I had not the *corroborative testimony* of those better known to science. But, as time has progressed, investigation and research on the part of eminent thinkers have given me all the evidence I need to sustain the basilar principles of my system. Observation of the faces and forms of men, women, and animals will supply the rest.

The more I investigate Mr. Haeckel's system of evolution, the more profoundly am I impressed with its truth. In it I find the corroboration of my system, or at least many parts of it; and I blush while I write it, that one so obscure as myself can claim to be able to corroborate anything that so great a scientist has advanced. I also find in physiognomy the corroboration of much that he has stated, but especially have I found in the human face the proofs of the evolution of the organs and systems of the body of man, simply by the order of the location of their signs in the face. The order of their placing and action in the body is also a proof of many of his positions, and mine as well.

Here I am about to attempt a very difficult task. I am desirous of giving my reader somewhat of Mr. Haeckel's system of the origin and progress of the systems and organs of the body in a few pages. This is a work to which he devotes two volumes, and my attempt may be thought presumptuous; but still it is my proof, and I hope I may accomplish my task without injustice to his elaborate descriptions, illustrated, as they are, with numerous diagrams and plates. It must be borne in mind that the knowledge of the origin and progressive development of the entire man, as he now stands perfected, has been sought for, first in the simplest organisms in the world, viz., in the amœba; thence coming along up the scale of progressive evolution to the family of worms, thence along the line of investigation to the brainless fishes; thence to the skulled organisms, through reptiles, birds, and beasts, to man.*

In order to make my evidence more complete, I will go back to primeval times, and take up the investigation of primeval organisms; because, in their origin and evolution they type the growth and progress of man, his organs and functions. The amœba (Fig. 3, page 63) is composed of a small speck of slime, or plasmoid substance. Under the microscope it discloses a simple cell, or germ. This form is the beginning of life in every plant, animal, and man in the world. Man, at his commencement, is nothing more than this—a small cell, or germ, combined with a microscopic quantity of mucus-like substance. In the case of the amœba, we find that, without any organs, it yet has powers such as are seen only in developed organisms. It seems to possess the faculties of motion without muscles, bones, or limbs, irritability without nerves, digestion without stomach, reproduction without sexual organs, and respiration without lungs; and, withal, purely chemical in its action. At the first dawn of all things in existence, chemical action alone seems to be dominant. As it lies in the water—for that is its natural abode, and it can be seen in bodies of both fresh and salt water almost any day by seeking for it—it can project one part like a limb; it can expand, contract, or roll up in a spherical shape. It digests by absorption the minute animalculæ contained in the water, thus showing it to be carnivorous without teeth. It reproduces by fission, or division; that is to say, after it has attained a certain size it separates into two parts, and these again, in their turn, repeat the process when the right proportions are reached.

You will ask how it is possible for an animal to do all this without organs or functions. The answer I make to this is, that these powers must be *diffused* through the creature just as they are at the other extreme of evolution; just as they are found in man, the highest expression of organized life, as the amœba is the lowest; just as all the elements of life are *diffused* through oxygen, hydrogen, nitrogen, and carbon. All the possibilities of organic form and life are in these simple constituents; yet we see that they have neither form nor organs. Although man has several systems of functions, still they are so blended and interrelated that it is impossible for any one of them to act independently; they are *diffused*, so to speak, all through the human system. The nerves, the muscles, the bones, the tissues, the mind itself, even, is diffused, and irritation and sensibility proceed from all the nerve-ganglia in the body, just as irritation and sensibility are manifested by the microscopic amœba, without any perceptible nervous system.

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* Evolution of Man, Ernst Haeckel, vol. ii, pp. 30–43.

The next stage of progression after the amœba is a simple aggregation of cells, without organs as yet. The manner in which these germ-cells aggregate or break up into other cells is most interesting, and has been observed in very low mammals, in guinea-pigs, and rabbits, in the amphioxus, and in the eggs of toads and frogs. The eggs of all these animals develop exactly as do the cells of the amœba. Observation of the manner in which the eggs of frogs develop shows that their eggs are circular, and the upper half appears darker than the lower; this marks the egg into two distinct halves. This marking into halves commences about an hour after being deposited; an hour later another line or furrow is formed, cutting the first at right angles. This change continues in geometrical progression from two to four, thence to eight, to twelve, to sixteen, to twenty-four, to thirty-six, to forty-eight, to sixty-four, until one hundred and sixty cells are formed, the greater number of which consist of the cells which later form the *animal* functions; the less number, the *vegetative* functions of the animal. This law of mathematical progression is one proof of my proposition that all the operations of Nature have mathematical law as a common basis. The commencement of all life is on so infinitesimal a scale that, until the microscope reached its present perfection, the means to ascertain all of the laws of evolution did not exist.

The next stage appears as a simple, hollow globe, filled with liquid, the wall of which consists of a single layer of cells.

The next progressive step shows us a hollow body, with an opening at one end, the wall consisting of two different cell-strata. These strata Mr. Haeckel describes thus:—

> The two cellular layers which surround the cavity of the primitive intestine, and alone constitute the wall of the latter, are of very great significance; for these two, which alone constitute the whole body, are, in fact, the two primary germ-layers, or primitive germ-layers. The outer cell-layer is the skin-layer, or exoderm; the inner cell-layer is the intestinal layer, or entoderm. The whole body of all true animals proceeds solely from these two primary germ-layers. The skin-layer furnishes the outer body-wall; the intestinal layer forms the inner wall of the intestine, and directly surrounds the intestinal cavity. At a later period a cavity forms between the two germ-layers; this cavity, filled with blood or lymph, is the body-cavity (cœloma). The two primary germ-layers—the outer, or serous, and the inner, or mucous layer—were first clearly distinguished in 1817, by Pander, in the incubated chick; but their full significance was first thoroughly recognized by Baer, in 1828, who gave the name of animal layer to the outer layer; that of vegetative layer to the inner. These names are very apt, because it is the outer layer which especially, if not exclusively, gives rise to the animal organs of sensation and movement—the skin, the nerves, and the muscles; while, on the other hand, it is especially from the inner layer that the *vegetative* organs of nourishment and reproduction—the intestine and blood-vessel systems—arise.*

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* Evolution of Man, Ernst Haeckel, vol. i, pp. 19-196.

The hollow body mentioned here is the primitive intestine; the opening, the first appearance of the mouth; the two different kinds of cell-strata form the inner and outer skin; the inner skin assists in digestion, and the outer forms the covering and assists in motion and sensation.

The next advance made shows an organism—the turbellaria, a gliding worm, which is found at the present day in both fresh and salt water. These creature's have two openings to the body, a nerve-system, consisting of a simple nerve-ganglion at the top of the mouth-opening, a pair of simple eyes, and nose-pits; also, will be found a pair of simple kidney-ducts. Mr. Haeckel remarks:—

> The appearance of these (kidney-ducts) at so early a period shows that the kidneys are very important primordial organs. It also shows their existence in all flat worms; for even the tape-worms, which in consequence of the adoption of a parasitic mode of life have lost the *intestine*, yet have the two secreting *primitive kidneys*, or excretory ducts. The latter, therefore, seem to be older and of greater physiological importance than the blood-vessel system, which is wholly wanting in the flat worms.*

The reader will observe that the kidney system makes its appearance before the heart, liver, lungs, blood-circulating system, brains, bones, or any of the smaller organs or systems of the body. Mr. Haeckel observed this fact, and, as he expresses it, "the kidneys seem to be of greater physiological importance than the blood-vessel system." Of the first appearance of the kidney system, Mr. Haeckel observes:—

> These four organ systems which have been mentioned were already in existence when an apparatus developed tertiarily in the human ancestral line, which at first sight seems of subordinate significance, but which proves, by its early appearance in the animal series and in the embryo, that it must be very ancient, and consequently of great *physiological* and *morphological* value. This is the urinary apparatus, or kidney system, the organ system which secretes and removes the useless fluids from the body.†

We have already seen how the primitive kidneys appear in the embryo of all vertebrates long before any trace of the heart is discoverable. Later on Mr. Haeckel remarks:—

> The human skin and intestines are, according to this, many thousands of years older than the muscles and nerves. These again are much more ancient than the kidneys and blood-vessels, and the latter, finally, are many thousands of years older than the skeleton and the sexual organs. The common view that the vascular system—that is, the blood-circulating system—is one of the most important and original organ systems is, therefore, erroneous. It is as false as the assumption of Aristotle, that the heart is the first part to form in the incubated chick. On the contrary, all the lower intestinal animals show plainly that the historic evolution of the vascular system did not begin till a comparatively late period.‡

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* Evolution of Man, vol. ii, p. 81.

† *Ibid.*, p. 368.

‡ *Ibid.*, p. 358.

My observations in my own peculiar branch of science lead me to see the *importance of the kidney system*, not only from a physiological stand-point, but also from a moral one. The chapter on the "Rationale of Physical Functions and their Signs in the Face" explains this theory.

The two systems of organs which appeared first in man's primitive ancestors were the intestinal and skin systems; these came simultaneously. After these came the gill-intestine, which foreshadowed the lungs. A rudimentary stomach was also evolved. The two systems which appeared next in order, and simultaneously, were the nerve and muscle systems. Then evolved the blood-circulating system, as yet without a heart, the blood circulating through tubes without any central organ.

The next set of systems which appeared were, first, the skeleton, and then the sexual system; reproduction previous to this having been produced by fission, or in other ways not requiring sexual organs. The first two systems which appeared were, as above stated, the intestinal and the outer skin-covering, which were used for motion and also for sensation. This sense of touch stood in place of nerves to these low organisms; they gained all knowledge of their surroundings from the sense of touch, and "without touch," says Taine, "nothing could exist."

Later on in evolution this outer skin

> Had become *especially sensitive*, gradually withdrew into the shelter of the interior of the body, and there laid the first foundation of a central nervous organ. As differentiation advanced, the distance and distinction between the external skin-covering and the central nervous system detached from this become continually greater, and finally the two were permanently connected by the conductive peripheric nerves.*

Says Haeckel:—

> "Let us now turn aside from these very interesting features in evolution and examine the development of the later human skin-covering, with its hairs, sweat-glands, etc. The skin, in the first place, forms the general protective covering which covers the whole surface of the body, and protects all other parts. As such, it at the same time effects a certain change of matter between the body and the surrounding atmospheric air—perspiration or skin-breathing. In the second place, the skin is the oldest and most primitive sense-organ, the organ of touch, which effects the sensation of the surrounding temperature, and of the pressure or resistance of bodies with which it comes in contact. These organs of our body which discharge the highest and most perfect functions of animal life—those of sensation, volition, thought; in a word, the organs of the psyche, of mental life—arise from the external skin-covering."†

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* Evolution of Man, Ernst Haeckel, vol. ii, p. 196.

† *Ibid.*

The corroboration of this last sentence of Mr. Haeckel is found stated in one of the sub-basic principles of scientific physiognomy—"texture is significant of quality"—for, without seeing the face of an individual or his form even, the *quality* of his mentality is disclosed by the quality of his skin and hair, both of which must and do correspond always to man's mental quality. The finer, clearer, and more sensitive the skin, the finer will be the quality of the mental sensations and sensibility, or, in other words, of his brain and nerves. Thus another proof of my propositions is given us from this great man's research. Although the two sciences on their first presentation do not seem to be directly connected, yet as we proceed we shall find that they are corroborative of each other.

In physiognomy the brain and nerve system is located the highest in the organism, and comes last in the order of progressive development, for the reason that the true brain, the perfected cerebrum, was the last organ in developing, and is the chief seat of mentality, although mentality is diffused through all of the several systems of the entire organism, whether of man or animal.

The first appearance of anything like a skeleton is the notochord, which is not yet true bone, but cartilaginous in its nature. It foreshadows the vertebræ, or what is commonly called the backbone. Along the inner side of this cord a medullary or nerve-tube is found, which has evolved from the upper throat-ganglia—the first appearance of a nervous system. This notochord develops sufficient strength later on in evolution to support strong side-muscles and an oar-like tail, which were needed for swimming. From the anterior portion of the notochord, near and above the mouth-opening, a little capsule made its appearance. This is the first beginning of a brain. Hitherto the mental powers of animal organisms, their consciousness and sensibilities, the sense of feeling or touch, have been located in the body, in the inner and outer skin, in the muscles and notochord.

Now a great step forward is taken. A single nostril forms above this capsule, and nostrils presuppose a use. At the side of the animal in which this stage of evolution exists, just below a simple eye which has formed, are seven little openings called gill-openings. The air contained in the water taken in at the mouth, which is only a round opening without jaws as yet, is respired through these little gill-openings; this is the first approach toward breathing through an apparatus especially for that purpose. Hitherto breathing has been carried on by lower organisms through a process called skin respiration, or by using the oxygen contained in the water taken into the mouth-opening.

These characteristics are all of the most important which have evolved from the first simple one-celled amœba until the fish family is reached. Heretofore we have considered very low organisms—gastræa, worms, and lampreys. The evolution of fishes marks a great advance in the origin of organs. The one little capsular brain has formed four other similar little bladders, which, later on, form one whole brain; these five parts are the origin of the five parts of the brain as they are found divided in the human skull. Two jaws appear, also two nostrils, and the swimming bladder, which organ develops into the true lungs in the higher vertebrates; as now found in the fish it is used as a hydrostatic apparatus, by means of which the fish rises and sinks in the water. The swimming bladder is developed from the anterior portion of the intestinal canal, and corresponds in its position to the lungs in the higher organisms.

The strong side-muscles which were evolved in the swimming worm now develop into two fore and two hind limbs; the two fore limbs are called pectoral fins, and the hind limbs ventral fins. These fins foreshadow the upper and lower limbs, the hands and feet, of man, and the limbs of all vertebrate animals. With the coming of these there appeared a sympathetic nerve system, a spleen, and salivary gland. In this stage of progress the notochord has ossified and become true bone, although fish-bone is always more like cartilage than the bones of higher animals. Some little bony arches, called gill-arches, have been thrown upward and forward from the anterior portion of the notochord, or, as it now is, the backbone of the fish, and these form the upper and lower jaws. Fishes have from four to six pairs of gill-openings, which lie between the gill arches.

> In the embryos of man and the higher vertebrates only three or four pairs are developed.*

In the latter only a single vestige of a gill-opening remains, the remnant of the first gill-opening. This changes into a part of the organ of hearing; from it originates the outer ear-canal, the tympanic cavity, and the Eustachian tube.

In all the three higher vertebrate classes, also in man, the tongue-bone (os hyoides) and the bonelets of the ear originate from the gill-arches. From the first gill-arch, from the centre of the inner surface of which the muscular tongue grows, proceeds the rudimentary jaw-skeleton, the upper and lower jaws, which inclose the cavity of the mouth and carry the teeth. *The original formation of the human mouth-skeleton of the upper and lower*

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* Evolution of Man, Ernst Haeckel, vol. ii, p. 329.

jaws can be traced back to the earliest fishes, from which we have inherited them.

The next stage of evolution brings us to the amphibia, creatures endowed with the power to live on land or in water. In this class of animals a lung for breathing while upon land is required. This organ evolves from the forward and upper end of the intestine, and the air is inhaled through a tube or windpipe.

> At the upper end of the windpipe, below its entrance into the throat, the larynx, the organ of voice and speech, develops. The larynx occurs even in amphibia in various stages of development, and with the aid of Comparative Anatomy we can trace the progressive development of this important organ from its very simple rudiment in the lower amphibia up to the complex vocal apparatus represented by the larynx of birds and mammals.*

The power for breathing necessitates a heart or blood-circulating system. We accordingly find in the order of the amphibia a heart, not yet perfected in its power and mechanism as in the higher organism of reptiles, birds, and mammals. Of this change in the mode of breathing air directly from the atmosphere instead of from water, Mr. Haeckel says:—

> This physiologically significant modification of the mode of respiration is the most influential change that affected the animal organism in the transition from water to dry land. In the first place, it caused the development of an air-breathing organ, the lung, the water-breathing gills having previously acted as respiratory organs. Simultaneously, however, it effected a remarkable change in the circulation of the blood and in the organs connected with this, for these are always most closely correlated with the respiratory organs.†

In this last sentence the reader will find the proof of the origin of my sign for the action of the heart: "The larger the lung and nostril, the greater the size and power of the heart." These two organ systems are closely interrelated, and one always conditions the other. The change from water-breathing to air-breathing led to many other important changes. Of this transformation, Mr. Haeckel remarks:—

> Within the vertebrate tribe it was undoubtedly a branch of the primitive fishes (*Selachii*), which, during the Devonian period, made the most successful effort to accustom itself to terrestrial life, and breathe atmospheric air. In this the swimming bladder was especially of service, for it succeeded in adapting itself to respiration of air, and so became a true lung. The immediate consequence of this was the modification of the heart and nose.‡

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* Evolution of Man, vol. ii, p. 335.

† *Ibid.*, p. 116.

‡ *Ibid.*, p. 116.

Here is still another proof of the origin of my sign in the face for the power and activity of the circulatory system and heart. Let us return to the further description of the evolution of the organs by Mr. Haeckel, He says:—

> While the true fishes have only the blind nose-pits on the surface of the head, these now become connected with the mouth-cavity by an open passage; a canal formed in each side leading directly from the nose-pit into the mouth-cavity, and thus, even while the mouth-opening was closed, atmospheric air could be introduced into the lungs. While, moreover, in all true fishes the heart simply consists of two compartments—an auricle which receives the venous blood from the veins of the body, and a ventricle which forces this blood through an arterial expansion into the gills—the auricle, owing to the formation of an incomplete partition-wall, is now divided into a right and left half; the right auricle alone now received the venous blood of the body, while the left auricle received the pulmonic venous blood passing from the lungs and the gills to the heart. The simple blood circulation of the true fishes thus became the so-called double circulation of the higher vertebrates, and this development resulted, in accordance with the laws of correlation, in further progress in the structure of other organs.*
>
> The vertebrate class, which thus first adapted itself to the habit of breathing air, is called mud-fishes,—*dipneusta*, or double-breathers,—because, like the lowest amphibia, they retain the earlier mode of breathing through the gills, in addition to the newly-acquired lung respiration. In their mode of life they are true amphibia. During the tropical winter, in the rainy season, they swim in the water like fishes, and inhale water through the gills. During the dry season they burrow in the mud as it dries up, and during that period breathe air through lungs, like amphibians and higher vertebrates.†

The life on land of these amphibious creatures necessitated an apparatus for locomotion. This caused an advance in the strength of the side-muscles which were attached to the fins, and a change in the fins themselves. Of the construction of these fins, Mr. Haeckel observes:—

> The thorough researches of Gegenbaur have shown that the fins of fishes, concerning which very erroneous views were previously held, are feet with numerous digits; that is to say, the cartilaginous or osseous rays, many of which occur in every fish-fin, correspond to the fingers or digits on the limbs of higher vertebrates; the several joints of each ray correspond to the several joints of each digit. In the double breathers the fin yet retains the same structure as in fishes, and it was only gradually that the five-toed form of foot, which occurs for the first time in amphibians, was developed from this multidigitate form.‡
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> The great significance of the five digits depends on the fact that this number has been transmitted from the amphibia to all higher vertebrates. It would be impossible to discover any reason why, in the lowest amphibia as well as in reptiles, and in higher vertebrates up to man, there should always origi-

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* *Ibid.*, vol. ii, pp. 117, 118. † *Ibid.*, vol. ii, p. 123. ‡ *Ibid.*, vol. ii, p. 124.

nally be five digits on each of the anterior and posterior limbs, if we denied that heredity from a common five-fingered parent-form is the efficient cause of this phenomenon. Heredity alone can account for it. In many amphibia certainly, as well as in many higher vertebrates, we find less than five digits, but in all these cases it can be shown that separate digits have retrograded, and have finally been completely lost. The causes which led to the development of the five-fingered foot of the higher vertebrates in this amphibian parent-form from the many fingered foot, must certainly be found in the adaptation to the totally altered functions which the limbs had to discharge during the transition from an exclusively aquatic life to the one which was partially terrestrial. While the many-fingered fins of the fish had previously served almost exclusively to propel the body through the water, they had now also to support the animal while creeping upon land. This effected a modification both of the skeleton and of the muscles of the limbs. The number of fin-rays was gradually lessened, and was finally reduced to five. These five remaining rays now, however, developed more vigorously. The soft, cartilaginous rays became hard bones; the rest of the skeleton became, consequently, more firm; the movements of the body became not only more vigorous but more varied. The separate portions of the skeleton system, and consequently of the muscular system, also became more and more differentiated, owing to the intimate correlation of the muscular to the nervous system; the latter also naturally made marked progress in point of functions and structure. We find, therefore, that the brain is much more developed in the higher amphibia than in mud-fishes and in the lower amphibia.

In the last few sentences of this description of the evolution of amphibia I find the corroboration of my theory of the progressive development of some of man's physical functions and mental faculties. I have shown elsewhere that as the muscular system evolved and became differentiated man's capacity for mental progression was enhanced. If the reader will refer to Fig. 4, page 65, he will find in the illustration I make of the native Australian how exactly in accord my theory of the order of development of the functions in man is with Mr. Haeckel's proof of the evolution of the organs and functions, not only in the lowest organism, but in the embryonic life of man; and, lastly, in his most developed and perfected state as a full-grown member of the latest and highest race.

As we ascend in the scale of development from a lower to a higher grade—from the Vegetative to the Thoracic, from the Thoracic to the Muscular functions—we find different growths overlapping each other, as it were, and this peculiarity is noticeable in every department of organic life. This method is not only apparent in the successive growths of the same organism, but it is also very marked in the evolution of species, where we often see, as in amphibia, functions which are useful both for aquatic and terrestrial existence. So, in the human family, as I read in the face and body, we see the remains of former existences, the remains of our animal ancestors. Not only are these inheritances characterized by phenomena which the popular voice terms "animal passions," such as hate, revenge, destruction, and jealousy, but we see in the uselessness or purposelessness of numerous organs and parts of useless members, which are scattered in different portions of the human organism, the greatest proofs of evolution, and, indeed, the one of all others which would establish the truth of that doctrine on a firm and unassailable foundation. I shall give brief mention of these rudimentary remains of our ancestors.

The generality of people accept, without question or analysis, the human organism as they find it, never glancing back to trace laws and appearances to their origin; but, as soon as inquiry and investigation commence, light flows in upon them. I will refer to only a few of the remnants of former animal existences that are now found incorporated in the human system, without having any use or purpose in man's economy, but which, on the contrary, often induce disease and suffering. I will first call attention to the fine short hairs found all over the body. What is their use to man? None that physiologists have been able to discover. They are simply vestiges of the thick hairy covering found on our most immediate animal ancestors. The little circle of muscles surrounding the ear-shell is another relic of an existence which found flapping and raising and lowering the ears a necessity. These muscles are not of the slightest use to man, as his ears are immovable. At the inner corner of the eye we find a little fold of skin, the remains of the nictitating membrane,—the third eyelid,—which is useful to some birds and fishes, such as owls, sharks, and others, but serving no purpose in the human family. At the termination of the vertebræ, or backbone, we have five little bones, with joints and shrunken muscles, that are of no use to man. They are subject to disease, and I have recently heard of the successful amputation of the coccyx, as this rudimentary "tail" is called. Another useless, and worse than useless, relic is the thyroid gland. It is situated in front of the larynx, and is the remnant of the crop so useful to our animal ancestors. It is often the seat of disease. The swelling so common in the mountains of Switzerland, called "goitre," is an affection of this gland, which has no use in the organism of man. There are various other parts, like the vermiform process in the intestines, which are only a detriment to us; also, some atrophied muscles in the thighs, which are useless in our present state of existence. They were very useful formerly in climbing trees,—a process our animal ancestors found essential to their welfare. There are many remains of former conditions of the reproductive system when organisms were bisexual, and thus it is that in man are found portions of rudimentary female organs that are functionally active only in women. These have no use in the body save to enlighten us on the subject of our pedigree and descent, and also to teach us the methods of Nature in evolution; yet all serve to illustrate the power of God, who from so small a beginning as a simple germ-cell can create by successive steps the complex being we call Man.

No portion of the human system acts independently, but all of the five superior organ systems are so correlated that neither can act without being affected by or affecting the others. These several powers are diffused, as it were, through the entire body, although there is a sufficiency of connection and similarity of action in each to enable us to trace its cause and operation through the entire organism. At the same time, each system extends its influence (as we rise in development) forward into the next growth, and there are faculties and functions which seem to belong to and affect the operations of functions and faculties in the next system above, as, for example, mouth-breathing represents the condition of amphibia before true lung-breathing was established. Yet breathing through the nose is the more perfected method of respiration.

I cannot give with the limits of this work (neither is it pertinent) the history of the evolution of all the various organ systems in the human body. I shall present simply those which in my judgment seem to be corroborative of theories which are the result of years of observation and research on my part. Without pretending to carry the reader along the regular course of the evolution of the organs, so as to show the development of the structure of the skull, brain, and interior organs of the body not already noticed, I shall content myself with giving some extracts from different parts of the second volume of Haeckel's "Evolution of Man," bearing upon and sustaining my theory of the origin and location of mind. I will first quote a paragraph which is simply a reiteration of what has already been adduced by Flourens, Longet, and other well-known anatomists. Mr. Haeckel remarks:—

> It is possible to remove the great hemispheres of a mammal, piece by piece, without killing the animal, thus proving that the higher mental activities, consciousness and thought, conscious volition and sensation, may be destroyed, one by one, and finally entirely annihilated. If the animal thus treated is artificially fed it may be kept alive for a long time, for the nourishment, digestion, respiration, the circulation of the blood, the secretion,—in short, the *vegetative functions*,—are in no way destroyed by the destruction of this most important mental organ. Conscious sensation and voluntary motion, the capacity for thought, and the combination of the various higher mental activities have alone been lost.*

* Evolution of Man, Ernst Haeckel, vol. ii, p. 225.

Of the origin of the source of mind, sensation, and consciousness he says:—

> Comparative anatomy and physiology show that in the low animals specialized sense-organs are entirely wanting, and that all sensations are transmitted through the outer surface of the skin-covering. The undifferentiated skin-layer, or exoderm, of the gastræa is the simple cell-layer from which the differentiated sense-organs of all intestinal animals (*Metazoa*), and therefore of all vertebrates, originally developed. Starting from the consideration that necessarily only the most superficial parts of the body—those immediately exposed to the outer world—could have accomplished sensations, we should be justified in conjecturing, *a priori*, that the organs of sense also owe their origin to the same source. This is, indeed, the fact.*

Elsewhere Mr. Haeckel observes:—

> The history of evolution, in conjunction with the rapidly-advancing comparative anatomy and physiology of the sense-organs, affords the only safe foundation for the natural theory of the mind.†

Speaking of the varying degrees of intelligence or mental activity in the lowest vertebrates, he remarks:—

> Side by side within the various classes, orders, genera, and species we find so great a variety of vertebral intellects that at first sight one can scarcely deem it possible that they can all be derived from the mind of a common primitive vertebrate. First, there is the little lancelet, which has no brain at all, but only a simple medullary tube, the entire mental capacity remaining at the very lowest grade occurring among vertebrates. The cyclostoma, also, standing just above, exhibit a hardly higher life, though they have a brain. Passing on to the fishes, we find these intelligences, as is well known, at a very low point. Not until from these we ascend to the amphibia is any essential progress in mental development observable.‡

Here, again, I find still further proofs of my theories. The reader will remember that I have stated elsewhere that the natural order of the progressive development in the races of man, from the lowest to the higher, was from the vegetative system to the thoracic, from the thoracic to the muscular. Now, the great advance made by the amphibia was in the increased development of the muscular system,—first, in the addition of lungs, heart, and muscles to assist locomotion on land. This increased action of the muscular system, of course, advanced the mental powers and activities. The amphibia would necessarily be brought into contact with new and diverse methods of life in order to establish itself on land, and to accommodate itself to the new conditions which this form of life entailed. The circumstance of having to provide food other than that supplied by the waters would not only strengthen and cultivate the muscular system, but would sharpen the mental activities of the creature. Its life, being passed partly on land, would strengthen the bony system, for sunlight is essential to the development of the osseous structure in animals as well as in man. And here the next great advance in physiological and anatomical and mental development was made, for the reader will please observe that faculties and functions advance and develop simultaneously.

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* *Ibid.*, vol. ii, p. 235. † *Ibid.*, vol. ii, p. 237. ‡ *Ibid.*, vol. ii, p. 447.

Let us here continue Mr. Haeckel's description of the evolution of mind in the lower vertebrates. He says:—

> This progress in mental development is much greater in mammals, although even here, in the beaked animals (*Ornithostoma*), and the next higher class, the stupid, pouched animals (*Marsupials*), the entire mental activity is still of a very low order; but if we pass on from these to *placental* animals, within this multiform group we find such numerous and important steps in differentiation and improvement that the mental differences between the most stupid placental animals (for instance, sloths and armadilloes) and the most intelligent animals of the same group (for instance, dogs and apes) seem much more considerable than the differences in the intellectual life of dogs, apes, and men.*

This last-mentioned advance, my readers will observe, is based on the differentiations which resulted in a more complex arrangement of the organs and functions of reproduction, and of all the concomitant functions and faculties which this great advance requires. A more extensive and complex nervous system and brain would be necessitated by such change, and in the placental animals we accordingly find that the mentality has advanced in the ratio of their physical and anatomical development. Herein I find another proof of one of my theories, namely, that functions and faculties are correlated; that the mental cannot progress without the physical powers; that they depend upon each other—condition each other; that, in short, mind is a part of the *entire body*, and does not inhabit any one particular portion of the organism, but is diffused all through it—is blended with every function, and is part of every function. This knowledge simplifies the doctrine of mind, spirit, and soul very materially. As the mind or brain has always been considered the organ of the spirit or soul by theologians and metaphysicians, Comparative Anatomy will give them all the evidence needed to ascertain its locality and attributes. Of the difference between nature and spirit, Mr. Haeckel observes:—

> Accordingly, we cannot assent to the popular distinction between Nature and spirit. Spirit exists everywhere in Nature, and we know of no spirit outside of Nature; hence, also the usual distinction between natural science and mental science is entirely untenable; every real science is at the same time both a natural and a mental science; man is not above Nature, but in Nature.†

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* Evolution of Man, Ernst Haeckel, vol. ii, p. 447.

† *Ibid.*, vol. ii, p. 455.

In closing this review of portions of Mr. Haeckel's "Evolution of Man," let us compare the points of resemblance and correspondence between the two sciences, and summarize the proofs by which his evidence is corroborative of my discoveries in scientific physiognomy. The first point of resemblance between the two is evidential of one of my basilar laws, namely, that all creations, as well as all particles of matter, have for their basis three underlying laws—those of chemistry, architecture, and mathematics. I have shown, in the description of germ-cells, that all life is at first a simple cell, a purely chemical compound; in its next stage it takes on a fixed and definite form or shape, thus showing its architectural proportions. The number of the divisions of the germ-cells in geometrical ratio proves that mathematical law governs every particle of matter, and controls the physical as well as mental basis of life.

My theory of the high importance of the kidney system as a moral agent and a purifier of the body and mind, I think, is well sustained by the investigations of Mr. Haeckel among the lower animal organisms, where he finds the existence of kidney-ducts long before any of the organs and functions which are considered by the generality of people more essential to the existence of the human organism. Of course, physicians and physiologists comprehend thoroughly the "high physiological importance," as Mr. Haeckel terms it, of the kidney system; because they know that, whereas the functions of the intestinal system can be suspended for from twenty to thirty days without causing death, the suspension of the functions of the kidney system will cause convulsions and death in almost as many hours.

Well might it be said that the early appearance of this system in the lower organisms showed it to be "of great physiological importance." It is not equalled by any other system in the body in point of necessity and importance. The general belief is that the intestinal system is the greatest excretory power of the body. This is not correct; the skin, which is closely related to the kidney system, far exceeds the bowel system in importance as an excretory agent. This intimate relation of the skin and kidneys is proved, by the investigations of Mr. Haeckel, by the fact of the kidneys having evolved from the outer-skin sensory layer. The every-day experience of almost all adults proves this relationship between the skin and kidneys; for where the pores of the skin have become inactive by reason of chill or cold, the kidneys act for them and throw off an increased amount of waste material, and this action is carried on *vice versâ*.

That the nerves, brain, and kidneys have originated from the same source—that is, by evolution—is proved, not only by Mr. Haeckel's observation, but by the facts and experiences of life; by the joint indications and signs of all these functions in the bodies of human beings. The finer and clearer the skin, the finer the grade of mentality is found to be. Compare, for example, the texture of "Sitting Bull's" skin with the finely-organized cuticle of Elizabeth Barrett Browning, the grand poetess. Another proof of their common origin is found in the fact that a finely-organized skin assists in carrying off the waste and impurities of the body, thus assisting the kidneys in excreting impurities which lead to immorality where they are not discharged; while at the same time this finely-organized skin is an indication of purity of thought, which characterizes all who have a fine quality of brain, or where the brain and nerve system predominates over all other systems of the organism; thus proving my theory that Conscientiousness is related to the kidney system. I do not think that this position can be controverted except on the old theological and metaphysical basis that mind is something apart from the body, and governed by a "soul," the location and qualities of which have never, to my knowledge, been ascertained.

The next point of resemblance, and corroboration of my sign for the size of the nostrils and lungs, and the corresponding strength and vigor of the blood-circulating system, are found in the simultaneous appearance, in the low fish organisms, of these three organs and systems. Every indication of the human face and body proves the correctness of these signs. Wherever the nostrils are wide and large, or round and large, the lungs correspond in size and shape. The heart, also, must necessarily be of large size, and of powerful action, in order to receive all the blood which large lungs oxygenate. Thus these systems are naturally and necessarily correlated, and mutually condition each other. In this another proof of my theories is afforded.

Let us proceed still further in our examination of evidence. One of the strongest corroborations of scientific physiognomy that I have received is in the showing of the correlation of the functions of the muscular system with those of the brain and nerves. As Mr. Haeckel has told us, the efforts of the amphibia to accommodate itself to terrestrial life advanced greatly the power and capacity of the muscular system; hence, of the mental powers. Thus it will be seen that these operations are correlated; that, in fact, muscular movements are in themselves *mental* to a degree; not so highly specialized, it is true, as the faculty for pure abstract reasoning, although I believe this faculty will eventually be proved to have an intimate relation in the brain with the muscular and fibroid systems. The increased activity of the muscles necessitates increase in the size of the skeleton or osseous system; also, in the power of the nerves and size of the brain; hence, of mental activity and higher intelligence; for, the anatomy of the higher animals (dogs and apes, for example) shows that the power of speech is denied them solely on the ground that they have not that development of the larynx, tongue, and lips essential to the quality of speech, which is found among the lowest human races, even, and the latter do not possess that perfection of the muscular system which gives the power for perfected speech, such as is found in European races, for example. Speech is thus shown to be a physiological gift, as Mr. Haeckel observes—not a "divine" one; that is to say, not in the sense in which that word is commonly used. I believe every created thing to be divine, and emanating from the Creator, whether it be an oyster or an ape; and the reason why neither of them speak is not from a lack of divinity, but because of the absence of a suitable physiological development, each step of which is just as divine, one as another; the first step in evolution illustrating the power of the Creator as much as the last one. All are divine, infallible, and unerring.

SUMMARY OF THE ORIGIN AND EVOLUTION OF THE VISCERAL ORGANS AND FACIAL FEATURES.

The beginnings of all life, vegetable and animal, are similar in their operation and in progressive development. Up to a certain stage nutriment for the purposes of growth is of a fluid nature, but after animal life has manifested itself as such, then more solid foods enter into the composition of bodies, even in the lowest forms of animal life; as in the polyp, slight particles of solid nutriment are sought from the passing waters.

Cell-life is characteristic of the earliest formations of vegetable growth, as well as of the first stages of animal life. Man at the commencement is simply a minute speck of protoplasmic substance without form, and is then entirely in a chemical condition, formless, shapeless, of a semi-fluid nature without organs or any appearance of them; yet all the potencies of life, of talent, and of genius are comprised within this minute, homogeneous speck. If undisturbed this germ is acted upon by the resistless force of evolutionary law, and thenceforth develops until birth. The embryo remains till that time in a chemical condition mainly; its blood is uncolored, its mental faculties not yet awakened, only a few of its physical functions in action. The cerebrum, the liver, the heart, together with certain subordinate organs, among which are the supra-renal capsules, performing nearly all the labor of the organism. The heart is not yet divided, nor working through its proper channels, for respiration not having commenced the evolution of man is not complete; the spleen, the stomach, the true kidneys, the bladder, and the ureters have not been called into action. Up to this point the organs of man have passed through all the changes which are characteristic of vegetable and animal organisms as they have evolved successively in the innumerable tribes of vegetable, worm, fish, reptile, bird, and beast. The order observed in the development of the fœtus in utero as a whole and of its organs separately, as observed by countless skillful anatomists, is precisely the order which follows the evolutionary development of the organs separately in all the lower forms of life, from the cell-life of the plant to the animal life of the perfected human being as he appears at birth. The human animal goes through all the changes, in the nine months of his fœtal life, which the lower animals pass through in their evolution from the simplest form of life as a speck of jelly-like substance (simpler even than the cells of vegetable organisms); yet more—every organ of the human body, every feature of his face, and every limb follows precisely the same method and order of unfoldment which is observed in the upward progress and evolution of the successive lower animal organisms, commencing with the lowest forms, such as the ascidian and amphioxus; thence, coming along up the scale of advancing functions and faculties until the perfected human being is reached. If we follow the course of animal development we observe that physical functions and mental faculties appear simultaneously, and that every function sustains and is accompanied by a mental power of a kind suited to its degree of development and to the necessities of the animal in which any marked advance appears. One of the most noticeable advances of function with faculty is observed in amphibia, particularly in the metamorphoses which take place in the development of the tadpole. Within a short period, in this creature, life may be observed; the evolution of the lungs and heart. The lungs are evolved from external gills or branchiæ, and the heart develops from a two-chambered organ, consisting of one auricle and one ventricle, to a three-chambered organ. While these changes and modifications are taking place other functions come into existence. The fore legs are first evolved, later the hind legs are developed, and at last the tail disappears, and the result is the transformation of a tadpole into a perfect frog.

Along with the appearance of these prehensile and locomotory members the mental powers requisite for the searching and seizing of prey came into existence; thus illustrating the co-creation of mental faculty with physical function as low down in the scale of creation as the tadpole.

The heart of the human embryo undergoes precisely the same modifications as the heart of this reptile. The human embryo exhibits at an early stage of its existence a heart consisting of a single chamber which develops into two chambers; later a third compartment makes its appearance, but it is not until birth and air is inhaled that the fourth division of the heart takes place. Until this time the heart of the human embryo remains imperfectly developed as to its fourth compartment; that is to say, in the condition in which the tadpole is found when it emerges from its fish-life and becomes a dweller upon land as well as an inhabitant of the water. The human embryo before its birth dwells in a fluid or watery home; not until its birth is it capable of a life upon land. The parallel at this stage of evolution between the reptile and the human embryo is most striking. All the facilities for tracing the evolution of organs, organisms, features, and faculties are in existence and within reach of most persons in civilized life. The evolution of the human family from the lowest species of the race, from the wretched, undeveloped Australian or Hottentot to the most perfected Caucasian, can be also observed and studied and the science of evolution justified and proven.

The evolution of the visceral organs, which I claim are related to the mental faculties and exhibited by the facial features, have been studied by the most skillful and eminent anatomists and scientists, and to their researches am I indebted for the proofs and verifications of most of the positions I take upon the subject of human physiognomy. Most emphatically does the evolution of man prove by its orderly progress the order which I have observed in the arrangement of the signs in the face of the visceral organs and their accompanying mental signs. A most striking and convincing circumstance in regard to the arrangement of these signs is that I *had discovered and located them years before I knew anything about evolution as a systematized science.*

These two sciences thus confirm and corroborate each other; evolution bringing an *overwhelming mass of evidence*, commencing with the most minute beginnings of animal life and forms, while scientific physiognomy furnishes the *crowning proofs* in the human face, the most perfected portion of the most perfect of the animal series,—man. I once read a thrilling description of the construction of the Mont Cenis tunnel through the Alps, and was greatly interested in the part which described the supreme moment, when the approach was made from opposite sides of the mountain with the view of ascertaining if the calculations of the engineer-in-chief were correct, and if the perforations from either side would meet at a common centre. I imagined the breathless suspense, the intensity of the pent-up emotions with which the engineer-in-chief listened, straining every fibre of the auditory nerve to catch the faintest click of the hammer as it approached the desired spot, and when the accuracy of his mathematics was proven beyond any shadow of doubt by the light of the lanterns streaming through a faint chink in the rock, I can enter fully into the thoughts and feelings of this man at this moment; for, I believe I must have gone through a similar experience when Haeckel's "Evolution of Man" first met my gaze, and I attempted to read it. Directly I did so, I saw the proof of my long years of research verified from a source the most eminent, and my agitation was such that I was unable to calmly read the work for several days. The reason why I have given such extensive quotations from Haeckel is, that it affords most decided corroboration of my methods of relating faculty to function, and of my system generally, and because I did not wish the reader to accept the unsupported assertions of one so unknown to the scientific world as myself.

I should like here to give a detailed account of the methods pursued by Nature and described by scientists in the evolution of the human face, but, as the study of evolution is not contemplated in this work, I shall be obliged to content myself with referring my readers to the "Evolution of Man," by Ernst Haeckel.

The proofs of physiognomy are more plentiful, pronounced, decided, and clear than those pertaining to any other science. The vain and foolish self-love or viciousness of the many may impede the spread of this knowledge, but the truth will eventually triumph, and the application of this knowledge will become the most potent factor in the scientific breeding of the race. Natural selection, which is always a very slow method of evolution or progress, will be superseded by scientific selection, and thus the advance of humanity to greater heights of strength, purity, and nobility will be more rapid and satisfactory than the present instinctive method,—a method which does not call into activity the highest powers of the mind, but the very lowest, the instinctive; or, as is often the case, mercenary motives control reproduction. In the endeavor to reproduce finer types of animals man makes use of his reason, observation, judgment, and positive experience of the traits, forms, colors, and powers which he seeks to perpetuate in the animal,—a knowledge confirmed by experience and experiment. He understands that certain developments of bone, muscle, form, size, color, and quality in the horse, for example, indicate certain tendencies, and he has learned how to combine these in the parents in order to produce certain desired effects in the offspring. Is human offspring less worthy our highest consideration? It is true, that self-love and malice do not control the dawn of life in the reproduction of animal types, and herein lies our power for systematic reproduction.

Lavater declared "that the opposition of the vicious to physiognomy proceeds from a secret belief in its power." We must be prepared for this opposition, and also for that which proceeds from the more universal form of human weakness,—self-love. *To be honest with ourselves is often a heroic act.* We must cultivate in our children a love for *absolute truth.* The study of the natural sciences will do this and reward them not only with truth, but will unfold more wonderful, fascinating, and attractive fields of knowledge than all the fairy stories and works of fiction that were ever written.

TABULATED SUMMARY OF THE ORIGIN AND EVOLUTION OF THE ORGANS.

Systematic Survey, According to Age of the Human Organ Systems—Evolution of the Skin and Intestinal Systems.

First Stage,	Homogeneous protoplasm (chemical).
Second Stage,	Cell-life, the same in plant and animal (architectural).
Third Stage,	Division of cells into fixed numbers by geometrical progression (mathematical).
Fourth Stage,	Skin and intestinal systems.
Fifth Stage,	Stomach-intestine and gill-intestine, which later evolves into the lung system, and this produces the first facial feature,—the mouth.
Sixth Stage,	Nerve and muscle systems appear simultaneously.
Nerve System,	Eyes and nose-pits; Evolution of three facial features,—eyes, nose, and mouth; Differentiation also produces upper throat-ganglia; Simple medullary tube, spinal marrow, and brain.
Muscle System,	Skin-muscles, side-muscles, trunk-muscles.
Seventh Stage,	Kidney and vascular systems.
Primitive kidney-canals,	Simple body-cavity (cœloma).
Primitive kidneys,	Dorsal and ventral vessels.
Permanent kidneys,	Heart composed of part of the ventral vessel. Heart with auricle and ventricle.

EIGHTH STAGE, . . .	Evolution of the skeleton and sexual systems.
Skeleton System, . .	Simple notochord; Cartilaginous primitive skull; Gill-arches, ribs, limbs; Limbs with five digits.
Sexual System, . .	Simple hermaphrodite glands; Distinct testes and ovaries; Seed-duct and oviduct; Phallus.

In the preparation of this table I have made use of the table in Haeckel's "Evolution of Man," vol. ii, p. 367. This statement gives in detail the manner of succession of the several organ systems as they have evolved in the the lower animals through the successive ages of creation. It also discloses the order in which they make their appearance in the human embryo, proceeding first from the simple speck of protoplasmic substance contained in the ovum and spermatozoa; from these two minute specks arise by differentiation the entire complex mechanism observed in the human infant at birth, proving what Professor Haeckel states, viz.:—

> That the same series of multifariously diverse forms through which our brute ancestors passed in the course of many million years has been traversed by every man during the first forty weeks of his individual existence within the maternal body.[*]

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[*] The Evolution of Man, Ernst Haeckel, vol. ii, p. 5.

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GLOSSARY.

A priori. From the beginning.
Æsthetic. Pertaining to the beautiful.
Affinitize. Creating affinity or attraction.
Aggregated. Collected into a mass.
Albuminoid. Resembling albumin or the white of an egg.
Altruistic. Unselfish; benevolent.
Alveolar. Relating to the socket of a tooth.
Amœba. A minute animal having the power to change its form.
Amphibia. Animals capable of living on land and water.
Anæmic. Deficiency in blood, either general or local.
Analogous. Similar; like.
Anatomy. Description of the form, structure, and relations of the body.
Angularity. Having angles.
Animalculæ. Microscopical animal forms.
Animus. Temper; intention; purpose.
Anomalous. Irregular; not typical.
Anterior. In front; before.
Anthropoid. Man-like; resembling mankind.
Anthropologist. One versed in the study of man.
Aplome. A variety of crystallized garnet.
Appendages. Additions to; something added.
Apropos. Opportunely; to the purpose.
Arborean. Climbing; tree-climbing animals.
Arcana. A secret; a mystery.
Archæologists. Antiquarians; those versed in antiquity.
Archetype. First form; the original type.
Atavism. A going back to the original type.
Audition. Hearing; the power to hear.
Automaton. A figure self-moving by clockwork or other mechanism.

Bilateral. Having two sides.
Bisexual. Double-sexed; having both sexes.
Buccal. Pertaining to the cheek.

Calorific. Possessing, producing, or giving off heat.
Centrifugal. Moving from a centre.
Centripetal. Moving toward a common centre.
Chlorine. A yellowish-green gas of a suffocating odor.
Chylopoietic. Making or forming chyle.
Ciliated. Having fine hairs or cilia.
Clinoid. Like a bedstead.
Coccyx. The small bones at end of spine.
Cochlea. The spiral cavity of the ear.
Coeval. Of the same age; existing with.
Co-ordinate. Being of equal value; harmonious.
Commissure. The line of union between two parts.
Concha. The shell of the strombus.
Configuration. External form.
Conglobate. Formed into a globe or ball.
Congruities. Harmonies; fitness.
Contractile. Having the power to contract.
Cornea. The front part of the eye.
Corpuscles. Minute bodies in the blood.
Corrugator. A muscle that contracts or is contractile.
Cribriform. Pierced with holes; having the form of a sieve.
Crura. Belonging to the leg.

Deglutition. The act of swallowing.
Depilatory. A preparation to remove hair.
Diagnosis. Determination by distinct signs.
Diaphragm. Muscles separating cavity of chest from abdomen.
Differentiation. Evolution producing divers parts.
Dipsomania. Disease in which one craves intoxicants.
Dodecahedron. A solid having twelve equal faces.
Dorsum. The back; the ridge of a hill.
Duodenum. The upper portion of the intestines.
Dura mater. The outer membrane of the brain.
Dynamics. The science treating of forces.

Effluvia. Odors; unpleasant odors.
Egotism. Self-praise or comment.
Emasculation. Unmanly weakness; castration.
Embryon. The young before birth.
Empirical. Dependent upon observation not scientific.
En passant. In passing; current.
En rapport. In agreement with.
Encephalon. The brain.
Endogenous. Increasing by internal growth.
Entity. Essence; a real being in thought or fact.
Environment. Surroundings.
Epicureanism. Love of pleasure, especially of eating.
Equilateral. Of equal sides.
Esoteric. Having a secret meaning; private.
Ethmoid bone. The bone in the nose through which the olfactory nerves pass and upon which they are mainly distributed.
Ethnic. Racial; belonging to races or tribes.
Ethnology. The science which treats of races of the human family.
Evolution. Development; the science treating of development.
Exogenous. Growing by successive layers of tissue.

Femur. The thigh-bone.
Fission. A cleaving; a splitting.
Flexion. A bending; the part bent.
Flexor. A muscle which by contracting bends the limb or part on which it acts.
Formative. Giving or imparting form.
Fossa. A depression, furrow, or sinus.
Fulcrum. A support.

Ganglia. Masses of nerve-tissue.
Gemmation. A budding out; increasing by buds.
Gestation. Carrying young before birth.
Glands. Collections of cells in the human anatomy.
Globose. Round, spherical; like a globe.
Glottis. The narrow opening between the vocal cords.
Graminivorous. Subsisting on grass or grain.
Gullet. The passage to the stomach.
Gustatory. Pertaining to taste.

Herbivorous. Subsisting on herbs.
Hexagonal. Having six sides and six angles.
Hydatid. A parasitic sac.

Hydrocephalus. Dropsy of the brain.
Hydropult. A water-pump.
Hydrostatics. The science which investigates the properties of fluids, etc.
Hypertrophy. Increase in size of a part by increased nutrition.
Hypothesis. Supposition; a position assumed.

Ideality. Imagination; taste; love of the beautiful.
Ideation. The power of constructing ideas or thought.
Iliac. Relating to the ilium, the largest bone of the pelvis.
In extenso. Extended; spread out.
Incandescence. State of being at a white heat.
Incongruities. Opposites; inconsistencies.
Increment. A growing in bulk, quantity, or value.
Incubated. Hatched.
Incus. One of the small bones of the ear.
Infinitesimal. Exceedingly small.
Infusoria. Microscopical animals found in liquids.
Inheres. Fixes; remains fixed.
Inorganic. Not organized; irregular.
Insalivation. Mingling with saliva.
Interrelated. Mutually related or connected.
Intonation. Musical modulation of the voice.
Intuition. Perception; consciousness.
Iridescent. Showing a play of colors, like the rainbow.

Labial. Relating or belonging to the lips.
Lachrymal. Relating to or secreting tears.
Lacteals. Ducts conveying milk or chyle.
Laryngeal. Relating to or belonging to the larynx.
Larynx. The upper part of the trachea or windpipe constituting the organ of speech.
Lecherous. Lustful; lewd.
Lepidoptera. Insects with four wings, as butterflies, moths, etc.
Levator menti. The muscle raising the lower lip.
Lithium. An alkaline metal.
Locale. Place; location.
Locative. Able to locate.
Longitudinal. Extending in length.
Lucubration. Study at night.
Luminosity. Luminous; brightness.
Lymphatics. Glands conveying lymph.

Macrocosm. The greater world, or universe.
Maestros. Masters; leaders (usually applied to musicians).
Malleus. The outermost of the chain of bones in the ear.
Meatus auditorius. The canal leading to the inner ear.
Median. Running through the middle.
Medulla. The upper part of the spinal cord.
Medullary. Relating to the medulla.
Miasmatic. Malarial.
Microcosm. A miniature world.
Mobility. Ability and capacity to move.
Mollusk. An animal having a soft, fleshy body.
Morbific. Causing disease.
Morphic. Pertaining to form.
Morphological. Relating to morphology.
Morphology. The science which describes the actual or ideal forms of parts or organs in plants or animals.
Motor. A class of muscles and nerves controlling motion.

Neuroses. Diseases of the nervous system.
Nictitating membrane. The third eyelid of the bird.
Nomenclature. The technical words in a science or language.
Normalcy. The condition of being orderly and regular.
Nostalgia. Homesickness.
Nucleated. Collected or formed round a nucleus or centre.
Nucleus. A body or centre about which anything is formed or collected.

Occipito-frontalis. The muscle which wrinkles the forehead.
Occult. Invisible; hidden; not apparent.
Œsophagus. The gullet.
Olfactory. Having the function of smell.
Optics. The science of the properties of light.
Orbicularis. A circular muscle surrounding the eye or mouth.
Orbits. Cavity of the eye; paths described by planets in their revolution.
Organic. Exercising some function; relating to the organism.
Organism. Part of a living being.
Ornate. Ornamental.
Ova. The egg; the life-principle.
Ovoid. Shaped like an egg.
Osseous. Bony; composed of bone.

Palpebrarum. Relating to the eyelids.
Pancreas. A digestive gland; the sweet-bread.
Papillary. Containing minute elevations; warty.
Pari passu. Side by side; progressing equally and together.
Parotid. The salivary gland.
Percipient. Perceiving; having the power of perception.
Periodic. Happening at fixed times.
Peripheric. Pertaining to the periphery.
Periphery. The border of a circle or inclosure.
Peristaltic. A wavy or worm-like movement of the intestines.
Perpetuate. To preserve from extinction.
Personnel. The body of persons or things employed or referred to.
Perspicacity. The state of being quick-sighted.
Perspicuity. Clearness of reason.
Phalanx. One of the rows of bones of toes and fingers.
Philologist. One versed in the study of words.
Physicist. One versed in natural science.
Pistil. That part of a plant containing the ovary or seed-vessel.
Pneumogastric. Pertaining to the nerves of the lungs and stomach.
Polarity. Tendency to the pole.
Polyp. A simple form of animal life.
Pons. A bridge of tissues.
Posited. Placed in position.
Posthumous. After death.
Potencies. Powers; strength.
Prehensile. Seizing; grasping.
Prenatal. Before birth.
Previsional. Having foresight or knowledge.
Progenitor. A forefather; an ancestor.
Prognathous. Having projecting jaws.
Prognosis. The act of foretelling the course of a disease.
Prognosticate. To foretell.
Protean. Having the power of assuming different shapes.
Protoplasm. The first vital substance.
Prototype. An original type, after which anything is formed or copied.
Pseudopodia. A genera of animalculæ with false legs.
Psychical. Relating to the soul.
Psychology. The science of the soul, or mind.
Pylorus. The orifice of the stomach leading into the intestines.
Pyriform. Pear-shaped.

Quadratoid. Square-like.

Racial. Pertaining to a race or tribe.
Rami. Branches from a common ganglion.
Ramify. To branch out.
Ramus. A branch of an organ.
Ratiocination. Reasoning from premises.
Rationale. Explanation.
Recession. A withdrawing.
Recondite. Hidden; abstruse.
Regurgitated. Re-swallowed; re-absorbed.
Resonance. Prolongation of sound.
Respiration. The act of breathing.
Reticulation. Net-work; like a net.
Retroactive. Affecting what has past.
Retroussee. Turned up; elevated.

Retroversion. A falling or turning backward.
Rhizopods. Small animals with shells; a protozoön.
Rhomb. An equilateral parallelogram.
Rhomboidal. Formed like a rhomb.
Rodents. Gnawing animals.

Sacrum. The posterior bone of pelvis.
Salivary. Containing saliva.
Sarcomatous. Of or pertaining to a sarcoma; a fleshy tumor.
Sclerotic. The white outer coat of the eye.
Secretory. Performing the function of secretion.
Sectionizing. Cutting or placing in sections.
Segment. A portion or part; a section.
Sella turcica. The Turkish saddle; a hollow in the sphenoid bone.
Sepals. A leaf or division of the calyx of a plant.
Septum. A division; a partition.
Sinistrality. Wrong; perverse; left-handed.
Sodium. A metallic element soft and waxy, lighter than water.
Sophistical. Not sound; imitation; not founded on reason.
Spatulate. Shaped like a spatula or knife-blade.
Spermatozoon. The living principle of the seed.
Sphenoid. Resembling a wedge; wedge-like.
Sphincter. A circular muscle that contracts or shuts an orifice.
Stamens. The male organs of flowers.
Stapes. The innermost small bone of the ear.
Statics. That branch of mechanics which treats of the equilibrium of forces.
Stethoscope. An instrument by which one can hear the internal sounds of the chest and judge of its condition.
Stimulus. That which stimulates.
Strontium. A metal burning with a red color.
Subdominant. Not dominant, secondary, etc.
Summation. A summary; a summing up.
Supererogation. More than necessary; redundancy.
Supernal. Higher; highest; heavenly.
Sustentation. The act of sustaining or holding or bearing up.
Sutures. Seams; joints.
Symbolism. Nomenclature; a system of representation.
Sympathetic. Acting in sympathy; having sympathy for.
Symptomatic. According to the symptoms.
Synchronous. Acting at the same time.
Synthesis. A placing together of components.

Tactile. Pertaining to the touch.
Tangible. Readily realized by the mind; perceptible to the touch.
Temporo-maxillary. Relating to the junction of the temporal bone and the maxilla.
Tentative. Trial; essay.
Terminology. Nomenclature; table of terms.
Terraqueous. Consisting of land and water.
Testes. The seminal glands of the male.
Tetragonal. Having four angles and four sides.
Thoracic. Of or pertaining to the thorax, or chest.
Trachea. The windpipe.
Triceps. Muscles having three roots.
Turbinated. Spiral; wreathed conically.
Typical. Emblematic; of the nature of a type.

Ulna. The largest bone of the forearm.
Undissipatedly. Not dissipated; not scattered.
Unicellular. Having one cell.

Valvular. Pertaining to valves.
Vaporization. The state of being converted into vapor.
Vibrissæ. The stiff hairs in the nostrils.
Virescent. Of a greenish hue.
Viscera. Contents of the great cavities of the body.
Viscid. Having a ropy or glutinous consistency.
Viscus. Any of the great internal organs.
Visual. Relating or belonging to sight.
Visualizing. Seeing; making easier to see.
Vocality. Resonance, utterableness.

Zygomaticus. The muscle rising from the cheek-bone and inserted into the angle of the mouth.

INDEX.

Acquisitive constructiveness in animals, 537
Acquisitiveness, definition of, 534
  description of, 535
  facial and bodily signs, 534
  faculty of, 534
  in combination with other faculties, 543
  in different classes of people, 538
  what an excess or deficiency of, indicates, 136, 534
Action of certain traits, theories of the mode of, 239
Actors and singers, Approbativeness in, 245
Air, pure, the best cosmetic and medicine, 127, 142, 400
Albinos, color in, 253
Alimentiveness, or digestion, 348
  definition of, 348
  dependent upon the intestinal system, 165
  description of, 348
  facial and bodily signs, 348
  faculty of, 348
  in animals, 349
  the mouth an indicator, 351
  what an excess or deficiency of, indicates, 348
Amativeness, or love of the sexes, 177
  analysis of, 243
  children should be trained to a right knowledge of, 359
  definition of, 355
  description of, 355
  facial and bodily signs, 355
  faculty of, 355
  in connection with other faculties, 242, 361
  the eye an indicator, 358
  what an excess or deficiency of, indicates, 355
Analysis, definition of, 493
  dependent upon the action of the liver, 189
  description of, 493
  facial and bodily signs, 493
  faculty of, 493
  in animals, 499
  in combination with other faculties, 498
  of the glandular system and olfactory ganglion, 191
Analysis, what an excess or deficiency of, indicates, 493
Ancient methods of studying the mind, 8
Anger, analysis of, 255
  effect of, upon the system, 257
Animal development, order observed in the lowest forms of, 84
  kingdom, form in the, 123
  world, law of color in the, 130
Animals, acquisitive-constructiveness in, 537
  Alimentiveness or digestion in, 349
  Analysis in, 499
  Approbativeness in, 382
  Cautiousness in, 481
  comparison between the bony and vegetative system in, 88
  compensatory structure of, 144
  Conscientiousness in, 311
  Economy in, 323
  Firmness in, 313
  Form and Size in, 101
  Friendship in, 391
  Human Nature in, 528
  Jealousy in, 245
  Mental and Physical Imitation in, 505
  Modesty in, 449
  Prescience in, 595
  Resistance in, 467
  Sanativeness in, 434
  Secretiveness in, 470
  Self-esteem in, 440
  signs for Quality in, the same as in human beings, 114
Approbativeness, definition of, 378
  description of, 379
  facial and bodily signs, 379
  faculty of, 378
  in actors and singers, 245
  in animals, 382
  perversion of, 382
  what an excess or deficiency of, indicates, 379
Architectural division of the face, 15–21
  faculties in the, division of the face, 92
Arterial and glandular system, faculties in the, 408
  system (see the glandular and arterial system)
Artists, advice to, 496
  creative features of, 444
  imitative features of, 443

Artists should possess a fine quality of muscles, 78
Author's theory or philosophy of mind, 151

Banker, the systems and faculties required by a, 1169
Basic principles of Form, 27
  of scientific physiognomy, 7
Basilar laws of all lower creations find illustration in man and his face, 14
Beard, 1008
  texture of the, 1013
  the, a feature of great physiognomic significance, 1009
  the long and full dark-colored, sign of vigor, 1010
Benevolence, a definition of, 335
  dependent upon the glandular system, 169
  description of, 335
  different kinds of, 336
  facial and bodily signs, 335
  faculty of, 335
  in combination with other faculties, 337
  what an excess or deficiency of, leads to, 335
Bibativeness, definition of, 339
  description of, 341
  facial and bodily signs, 340
  faculty of, 339
  what an excess or deficiency of, indicates, 340
Birds, color in, 413
  Ideality in, 524
  Self-will in, 572
Blushing, 449
Body, fluid system of the, 343
  how, without losing strength, to reduce the size of, 1109
  signs, in woman, of beauty of the, 1092
    of health and disease, strength and weakness, beauty and ugliness, in the, 1085
    of strength in the, 1086
  the effect of compression of the female waist upon the, 1090
  the effect, from moderate lacing, upon the, 1091
  the, dependent for its form upon the interior organs, 1089
Body and mind indivisible, 152
Bone, remedy for an excess of, 92
Bones, an indication of honesty, 102
  classification of the, 86
  composition of, 86
  kind of food necessary for good, 87
  necessary for honest work, 89
Bony system, characteristics of the, 85
  diseases which attack the, 92
  evolution of the, 83
  faculties in the, 91
  in the animal world, 88
  prominent men in which the, predominated, 90
Bony system, signs for the, 91
Brain, and muscular system (see Muscular and brain system)
  and nervous system, 94
    diseases incident to the, 99
    evolution of the, 95
    faculties derived from the, 209-233
    Intuition dependent upon the, 234
    Mental Order dependent upon the, 209
    signs for a predominance of the, 98, 285
  composition of the, 98
  not the only mental organ, 22
  system, faculties derived from the, 227
Brains, celebrated people with small, 106
  large and heavy, 104
  weight of, 105

Calculation, definition of, 705
  dependent upon the muscular system, 213
  description of, 707
  facial and bodily signs, 706
  in animals, 714
  music based on, 712
  what an excess or deficiency of, indicates, 706
  why the muscular form in excess gives the combination for, 707
  why the muscular system is the base of, 216
Causality, definition of, 715
  derived from the brain system, 227
  description of, 718
  facial and bodily signs, 716
  in animals, 725
  in combination with other faculties, 724
  the cultivation of, 721
  what an excess or deficiency of, indicates, 716
Cautiousness, definition of, 479
  description of, 479
  facial and bodily signs, 479
  faculty of, 191, 479
  in animals, 481
  in combination with other faculties, 483
  its connection with the liver, 191
  what an excess or deficiency of, indicates, 135, 479
Character, gestures significant in disclosing, 299
  location and description of signs of, in the face, 297
  the method to pursue in reading, 1114
  voice an indicator of, 299
Cheeks, 848
  abnormal form of, 864
  dimples in the, 1044,
  signs of weakness in the, 1097
  the concave, or consumptive, 860
  the concave, or dyspeptic, 860
  the criminal, 862
  the dimpled, or beautiful, 856

Cheeks, the embryonic, 851
  the globose, or infantile, 852
  the gluttonous, 853
  the normal upper, 863
  the oval, or artistic, 855
  the rectangular, or conscientious, 856
  the two divisions of the, 850
  wrinkles in the lower, 1037
Chemical division of the face, 15
Children, correct ways of training, 483
  gymnastic training for, 460, 568
  hygienic remarks for, 353
  precocious, 139
  Self-esteem in, 441
  sensitive, nervous, 140
  should be trained in sexual morality, 359
  training of, 370, 372
Chin, dimples in the, 363, 1043
  forms of the, 778
  signs of weakness in the, 1097
  the dimpled, 777
  the "feminine," 780
  the, forms of the centre of, 775
  the signs in the, 769
  the three general forms of the, 771
  the three positions of the, 773
  what the, indicates, 315
  wrinkles in the, 1036
Civil engineer, the systems and faculties required by a, 1165
Classification of the bones, 86
Clergyman, the systems and faculties essential to a, 1151
Coffee and tea, injurious effect of, 345
Color, 125
  a controlling influence upon language, 656
  aids toward cultivating the sense of, 413
  analysis of, 206
  and heat synonymous, 127
  blindness, 129
  causes of a deficiency of, 416
  cultivation of, a religious duty, 253
  definition of, 408
  description of, 409
  designation and classification of, of the several complexions, 413
  facial and bodily signs of, 409
  faculty of, 408
  how it is received into the system, 207
  in albinos, 253
  in birds, 412
  lack of, 128
  law of, in the animal world, 130
  of service in determining what degree force will be exhibited, 461
  original source of, 125
  peculiarities of people of varying shades of, 414
  primary uses of, 126
  shows power, 419
  what an excess or deficiency of, indicates, 409–416
Color, what the combinations of, in the human form indicate, 420
Comedian, the systems and faculties essential to a, 1130
Commander, the systems and faculties needed by a, 1158
Comparison, between the bony and vegetative system in animals, 88
  definition of, 726
  derived from the brain system, 227
  description of, 730
  facial and bodily signs, 727
  in combination with other faculties, 735
  what an excess or deficiency of, indicates, 726
Compensation, 144
  law of, as regards the human organism physiologically, 145
  of faculties, 145
Compensatory structure of animals, 144
Complexion, characteristics of the different colors of the, 1099
  designation and classification of the colors of the, 413
  the, an indicator of moral as well as intellectual and physical signification, 1098
Conscientiousness, analysis of, 158
  definition of, 302
  dependent upon the kidneys, 158
  description of, 305
  facial and bodily signs of, 303
  faculty of, 302
  in animals, 311
  in connection with other faculties, 311
  indicates the condition of the kidneys, 158
  large in bony people, 306
  located in the vegetative system, 71
  what an excess or deficiency of, indicates, 302–306
Constructiveness, definition of, 544
  description of, 545
  facial and bodily signs of, 544
  faculty of, 544
  in connection with other faculties, 552
Contempt and scorn, analysis of, 265
Contrariness, analysis of, 269
Cook, the systems and faculties required by a, 1117
Coquetry, the language of, 1065
Correlation of organs, 14
Cosmetic, pure air the best, 127
Cranium, no proper race form of the, 106
Credenciveness, definition of, 578
  derived from the muscular system, 198
  description of, 197, 579
  facial and bodily signs, 579
  faculty of, 578
  great works that this faculty has influenced, 581
  what an excess or deficiency of, indicates, 578

Digestion, faculty of (see Alimentiveness)
Digestive apparatus, mental power of the nerves of the, 166
Dimples, in the cheeks, 1044
  in the chin, 363, 1043
  the mirthful, 1044
  the signification of, 1042
Disease, a temporary return of abnormal or perverted types, 51
Dishonest people can never appear honest, 310
Disproportions, way to reduce, of various kinds, 134
Dress-maker or designer of women's fashions, the systems and faculties essential to a, 1117
Drink, intoxicating, effect of, upon the system, 161
Drug medication, 142

Ear, 1015
  color of the, 1025
  defective positions of the, 1021
  forms of the, 1026
  position of the, 1021
  the abnormal, 1031
  the, an exponent of the muscular system, 284
  the commercial, 1030
  the courageous, 1030
  the external and internal, 1022
  the generous *versus* stingy, 1030
  the musical, 1026
  the oratorical, 1029
  the refined, 1031
  the signification of the forms of the, 1018
  the timid, 1030
  the unmusical, 1028
  the unrefined, 1031
  three divisions of the, 1024
Eccentricity, 53
Economy, Acquisitiveness not, 322
  analysis of, 171
  definition of, 318
  description of, 319
  facial and bodily signs, 318
  faculty of, 318
  in animals, 323
  in combination with other faculties, 323
  of Nature, 319
  what an excess or deficiency of, indicates, 318
Editor, the systems and faculties essential to an, 1175
Egotism, 264
Engineer, the combination of systems and faculties required for an, 1119
Enthusiasm, analysis of, 267
Evolution of the bony system, 83
Executiveness, definition of, 561
  description of, 561
  facial and bodily signs, 561
  faculty of, 561
Executiveness, in connection with other faculties, 569
  what an excess or deficiency of, indicates, 561
Eye, 936
  abnormal type of the, 953
  an indicator of language, 660
  artistic expression of the, 962
  artistic type of the, 947
  brutal expression of the, 963
  double obliquity of the, 950
  expression of the, 961
  forms of the, 943
  gluttonous expression of the, 964
  licentious and unprincipled form of the, 951
  magnetic expression of the, 963
  nictitating fold of the, 967
  observant expression of the, 963
  politic type of the, 948
  reflective type of the, 947
  shallow and passionate expression of the, 964
  size of the, 957
  the, an indicator of character, 936
  the linguistic, 948
  the normal, 953
  the, of animals, 941
  the secretive and acquisitive, 952
  the three general forms of the, 945
  the truthful, 952
  untruthful type of the, 948
  upward obliquity of the, 950
Eye and hair, what the color of the, indicates, 423
  brightness of the, an indicator of quality, 96, 118
  the, an indicator of Amativeness, 357
   of muscular development, 78
Eyebrows, 974
  colors of the, 987
  forms of the, 977
  movements of the, 984
  normal position of the inner termini of the, 978
  position of the middle of the, 980
  position of the outer termini of the, 981
  the æsthetic, 982
  the arithmetical, 981
  the artistic, 981
  the conceited, 978
  the credulous, 980
  the deceptive, 982
  the delicate, 984
  the impractical, 980
  the inventive, 983
  the observing, 979
  the, situated far apart, an indicator of quality, 976
  the use of the, a protection for the eyes, 974
Eyelashes, 969
  artistic interciliary space of the, 971
  superstitious type of the, 972
  the, an indicator of character, 969

Eyelashes, the interciliary space of the, 971
  the, primarily for purposes of protection, 969
Eyelid, 950
  the observing, 950
Eyes, diseases of the, 1103
  mirthful wrinkles at the outer corners of the, 1040
  the, show the condition of the fluid system, 347
  what they indicate, 273
  wrinkles under the, 1041

Face, bilateral symmetry of the, 1106
  characteristics of color in the, 1099
  faculties. practical or mechanical, 601
  features of the, as revelators of strength and beauty, 1093
  five general outlines of the, 756
  five practical subdivisions of the, 275–287
  glandular formation of the, 754
  location and description of signs of character in the, 297
  mental signs of character in the, 287
  muscular mechanism of the, 751
  nervous distribution of the, 753
  osseous formation of the, 752
  practical divisions of the, 601
  signs of health and disease, strength and weakness, beauty and ugliness in the, 1085
  summary to the five practical subdivisions of the, 292
  the, combines and illustrates all the primary elements of Form, 18
    indicative of the condition of the internal organs, 276
    Greek, or profile, 131
  the human, in outline, motion, feature, expression, and color, 749
  the lines of the, 1032
  three grand divisions of the, 15
  three natural and primitive divisions of the, 273
  what the color of the, indicates, 414–420
  wrinkles of the, 1034
Facial features, how the visceral organs shape the, 281
  signs for lactation, 78
    for the brain and nerve system, 285
    for the glands, 278
    for the kidneys, 279
    for the liver, 280
    for the lungs and heart, 280
    for the muscular or motive systems, 283
    for the nervous system, 283
    for the osseous system, 284
    for the reproductive system, 278
    for the visceral organs, 277
    for truthfulness, 304
    of a good physician or surgeon, 435
Faculties, combination of, for trades and professions, 1111
  dependent upon the thoracic system, 77
  derived from the intestinal system, 165
  in the architectural division, 21
    mathematical division of the face, 21
    vegetative division, 21
  many people possess a combination of, 1113
  mental, organs from which the, derive their powers, 236
  the combination of, required for an engineer, 1119
  the combination of, required for a farmer, 1118
  the combination of, required for a mechanic, 1116
  the combination of, required for a printer, 1116
  the combination of, suitable for a hotel or boarding-house keeper, 1115
  the, essential for a painter, 1121
  the, essential to a clergyman, 1151
  the, essential to a comedian, 1130.
  the, essential to a dress-maker or designer of women's fashions, 1117
  the, essential to a lawyer, 1154
  the, essential to a player, 1127
  the, essential to a poet, 1124
  the, essential to a sculptor, 1139
  the, essential to a society belle, 1133
  the, essential to an editor, 1175
  the, essential to an inventor, 1156
  the, essential to merchants, 1119
  the, essential to the orator, 1146
  the, necessary for an opera-singer, 1133
  the, necessary to a philologist, 1173
  the, necessary to a scientist, 1162
  the, necessary to a tragedian, 1129
  the, needed by a commander, 1158
  the, required by a banker, 1169
  the, required by a civil engineer, 1165
  the, required by a cook, 1117
  the, required by a philanthropist, 1171
  the, required by a physician, 1141
  the, required by a writer of fiction, 1177
  the, required for a speculator, 1120
  the, required for a statesman, 1181
  the, required for a surgeon, 1143
  the, requisite for a musical composer, 1136
Farmer, the combination of systems and faculties required for a, 1118
Fat in excess not honest, 89
Finger-nails an indicator of quality, 117
Firmness, analysis of, 164
  difference between, and Self-will, 575
  definition of, 312
  description of, 312
  facial and bodily signs, 312
  faculty of, 312

- Firmness, in animals, 313
  - what an excess or deficiency of, indicates, 312
- Fluid system of the body, 343
- Force, color of service in determining what degree of, will be exhibited, 461
  - definition of, 454
  - description of, 454
  - facial and bodily signs, 454
  - faculty of, 454
  - gives to the voice clearness, 461
  - in combination with other faculties, 463
  - mental uses of, 456
  - should be cultivated in children, 459
  - what an excess or deficiency of, indicates, 454
- Forehead, 987, 1103
  - different kinds of, 1104
  - the basic laws of form apply with the utmost certainty to the, 987
  - the infantile, 989
  - the mechanical, 990
  - the parts of the, indicate, 1103
  - the practical, 988
  - the projecting, 989
  - the scientific and mechanical, 990
  - wrinkles on the, 1041
- Form, 119, 766
  - all, has meaning and character, 11
  - among the animals, 101
  - an indicator of character, 60, 120
  - and being, normal factors in nature, art, and science, 57
  - and Size, 101
  - basic principles of, 27, 607
  - basilar or primitive, 122
  - crookedness of, indicative of slyness, 124
  - definition of, 602
  - dependent upon the osseous system, 603
  - description of, 603
  - facial and bodily signs, 602
  - fundamental principles of, 301
  - in animals, 607
  - in combination with other faculties, 609
  - in the vegetative and animal kingdom, 123
  - laws of, 17
  - motion the basis of, 27
  - number basis of, 35
  - the angle of, 768
  - the basic elements of, as exhibited in the features, 766
  - the cube of, 769
  - the curve of, 768
  - the line of, 768
  - the "point" or least element of, 767
  - the "sphere or globe" the most primitive of, 767
  - what an excess or deficiency of, indicates, 602
- Friendship, definition of, 385
- Friendship, dependent upon the intestinal system, 185
  - description of, 186, 386
  - different modes of action, 388
  - facial and bodily signs, 385
  - faculty of, 385
  - in animals, 391
  - in connection with other faculties, 390
  - selfish and unselfish action of, 386
  - what an excess or deficiency of, indicates, 385
- Functions, five different systems of, 20

- Generation of the race, right, 26
- Gestures, 759
  - congenital criminals use few, 760
  - the, indicative of character, 759
- Glands, facial signs for the, 278
- Glandular and arterial systems, faculties derived from the, 206, 408
  - power of the entire system, the lower lip the facial index of the, 169
  - system, analysis of the, and olfactory ganglion, 191
    - Benevolence dependent upon the, 169
    - Economy derived from the, 171
    - faculties derived from the, 169
    - Hospitality derived from the, 173
    - Love of Home dependent upon, 175
    - Mirthfulness derived from the, 181
    - Patriotism derived from the, 176
- Greek face, the, or profile, 131
- Gums, color of the, as an indicator of character, 1052
  - the, important as a significator of character, 1050
- Gymnastics, children should be thoroughly trained in, 460, 568

- Hair, quality or texture of the, 999
  - quantity of the, 1000
  - the cause and cure for baldness, 1007
  - the evolution of the, 997
  - the remedy for gray, 1003
  - the straight, 1005
  - various colors of the, 1000
  - various sorts of curly, 1004
- Hair and eyes, what the color of the, indicates, 423
- Hands, 1067
  - brain class of the, 1078
  - color of the, 1082
  - construction and divisions of the, 1069
  - lines of the, 1071
  - mental type of the, 1078
  - muscular class of the, 1073
    - artistic type of the (round muscles), 1074
    - commercial type of the, 1073
    - executive type of the, 1074
    - spatulate type of the, 1073
    - superstitious type of the (round muscles), 1074

- Hands, muscular class, of deceit and dishonesty, 1075
  - muscular class (No. II) of the, 1075
    - artistic type of the, 1075
  - osseous class of the (square bones), 1076
    - mechanical type of the, 1076
    - scientific type of the, 1077
    - philosophical type of the, 1077
  - position of the, 1071
  - texture of the, 1081
  - the beautiful, 1079
  - the mixed, 1078
  - the vegetative or infantoid, 1072
  - useful type of the, 1079
  - various types of the, 1080
- Head, 993
  - large *versus* small, 108
  - people of large, 104
  - size no indication of superior intelligence, 103
  - the form, size, and appendages highly indicative of mentality, 993
- Health, basis of good character must be founded upon, 137
- Hearing, 284
- Heart and lungs, facial signs for the, 280
- Heat and color synonymous, 127
- Hebrews, Sublimity very strong in, 510
- Home, Love of (see Love of Home)
- Hope, connection between liver and, 489
  - definition of, 486
  - dependent upon the liver, 154, 182
  - description of, 487
  - facial and bodily signs, 486
  - faculty of, 486
  - how to cultivate this faculty, 486
  - in connection with other faculties, 492
  - what an excess or deficiency of, indicates, 486
- Hospitality, analysis of, 173
  - definition of, 392
  - dependent upon the glandular system, 173
  - description of, 393
  - facial and bodily signs, 392
  - faculty of, 392
  - its connection with other faculties, 174
  - its relation to other faculties, 393
  - ways in which, will be exercised depend upon quality, 396
  - what an excess or deficiency of, indicates, 392
- Hotel or boarding-house keeper, the combination of systems and faculties suitable for a, 1115
- Human face the index of all Nature, 15
  - Nature, beneficial uses of this faculty, 532
    - definition of, 525
    - description of, 525
    - facial and bodily signs, 526
    - faculty of, 525
    - in animals, 528
    - in combination with other faculties, 533
- Human Nature, what an excess or deficiency of, indicates, 525
  - organization composed principally of water, 341
    - law of compensation as regards the, 145
  - race, right way of regenerating the, 240
- Hypocrisy, the language of, 1066

- Ideality, definition of, 514
  - description of, 515
  - facial and bodily signs, 515
  - faculty of, 514
  - natural allies of, 522
  - what an excess or deficiency of, indicates, 514
- Insane people, a knowledge of undeveloped or weak-minded and, not to be ignored in the study of mental science, 9
- Instinct in children and animals, 1112
- Intestinal system, digestion or Alimentiveness derived from the, 165
  - faculties derived from the, 165–185
  - Friendship dependent upon the, 185
- Intuition, children possess a high development of, 746
  - definition of, 737
  - dependent upon the brain and nervous system, 233
  - description of, 738
  - facial and bodily signs, 737
  - has a physical base, 740
  - in the animal kingdom, 746
  - the action of, not confined to geniuses, 744
  - what an excess or deficiency of, indicates, 737
  - women possess a more general and universal endowment of, 744
- Inventor, the system and faculties essential to an, 1156

- Jaw, crafty and witty, 786
  - curved or artistic, 788
  - embryotic lower, 783
  - forms of the, 781
  - the angular or contrary, 791
  - the consumptive, 786
  - the dramatic, 788
  - the dyspeptic, 784
  - the infantile, 784
  - the lower, 781
  - the prognathous, 792
  - the square, moral, mechanical, scientific, 790
  - the upper, 781
  - the weak or negative, 785
- Jealousy, analysis of, 244
  - in animals, 245

- Kidney system, the, 158
    - effect of intoxicating drinks upon the, 161

Kidney system, faculty of Conscientiousness indicates the condition of the, 158
Kidneys, facial signs for the, 219

Lactation, signs for, 278
Language, analysis of form of development of, 224
  Color a controlling influence upon, 656
  definition of, 652
  dependent upon the muscular system, 220
  description of, 223, 652
  facial and bodily signs, 652
  faculty of, 654
  in animals, 664
  in combination with other faculties, 663
  lack of linguistic ability, 652
  the eye an indication of, 660
  what an excess or deficiency of, indicates, 652
Laughter, different kinds of, 1054
  the physiognomy of, 1054
Lavater, not a scientific physiognomist, 10
  restored physiognomy to its former rank, 11
Laws of physiognomy, established, 146
Lawyer, the systems and faculties essential to a, 1154
Laziness, analysis of, 269
Legs, crooked, 121
Lip, infantile lower, 803
  the amative upper, 822
  the benevolent or sympathetic lower, 806
  the criminal lower, 809
  the destructive lower, 813
  the embryonic lower, 802
  the embryonic upper, 815
  the gustatory, 804
  the imitative upper, 819
  the linguistic lower, 805
  the lower, 799
  the mirthful upper, 824
  the modest upper, 818
  the normal upper, 823
  the philoprogenitive upper, 817
  the secretive lower, 808
  the secretive upper, 820
  the self-estimative upper, 821
  the sociable, 805
  the stupid lower, 812
  the undeveloped lower, 811
  the undeveloped upper, 816
  the upper, 795
    divisions of, 814
  the witty lower, 806
  wrinkles of the lower, 1037
  wrinkles of the upper, 1038
Lips, signs in the, 795
  signs of weakness in the, 1097
  the lower, the facial index of the glandular power of the entire system, 169
Liver, the, 182
  analysis dependent upon the, 187
  condition of, indicated by the faculty of Hope, 183
  facial signs for the, 280
  Hope dependent upon the, 154, 182, 489
  influence of, over mental states, 184
Locality, definition of, 635
  dependent upon the muscular system, 206
  description of, 637
  facial and bodily signs, 635
  faculties of, 636
  in connection with other faculties, 640
  in the animal kingdom, 637
  the cultivation of, 641
  what an excess or deficiency of, indicates, 635
Locke's method of, in investigating the mind, 9
Logical reasoning should be taught to children, 232
Love of Home, definition of, 324
  description of, 324
  facial and bodily signs of, 324
  faculty of, 324
  how it can be cultivated, 328
  what an excess or deficiency of, indicates, 324
Love of Young (see Young, Love of)
Lungs and heart, facial signs for the, 280
  keenness of scent and activity dependent upon large, 404
  large, create cheerfulness, 403

Man, not more intellectual than woman, 298
  the dominant systems of his organism control his acts and capacities, 81
Mathematical division of the face 15–21, 680
  faculties in the, 21, 680
Mechanic, the combinations of systems and faculties suitable for a, 1116
Memory, 1099
  description of, 625
  different kinds of, 1099
  facial and bodily signs, 625
  faculties of, 634
  how to cultivate the, 1101
  in animals, 634
  of Events, a great, no indication of superior intellect, 202
    cultivation of, 202
    definition of, 200, 624
    dependent upon the muscular and brain systems, 201
  the, contains as many parts as there are faculties, 1099
  tobacco and alcoholic drinks a demoralizing effect upon, 1101
  what an excess or deficiency of, indicates, 625
  when weak, how it can be strengthened, 627

- **Men,** prominent, in which the bony system predominated, 90
- Mental faculties, rationale of, and physical functions and their signs in the face, 149
    - local signs for the, 238
  - imitation, definition of, 499
    - description of, 511
    - facial and bodily signs of, 500
    - faculty of, 499
    - in animals, 505
    - what an excess or deficiency of, indicates, 500
  - power of the nerves of the digestive apparatus, 166
  - quality, texture of the skin significant of, 96
  - science, a knowledge of undeveloped or weak-minded and insane people not to be ignored in the study of, 9
    - our knowledge of the history of, 8
  - signs of character in the face, 287
  - status, influence of the liver over, 184
- Merchants, the system and faculties essential to, 1119
- Metaphysical theories, relation between, and physiognomy, 8
- Mind, ancient methods of studying the, or physiognomy, 8
  - and body indivisible, 152
  - author's theory or philosophy of, 151
  - inheres in the whole organism, 62
  - locale of the, 23
  - Locke's manner of investigating the, 9
  - physical basis of the, 23
  - progress made in the knowledge of, 150
- Mineral forms, 17–19
  - each, has a distinct shape of its own, 18
- Minerals, properties of, 18
  - shapes of, 28
  - the original source of color, 125
- Mirthfulness, definition of, 373
  - dependent upon the glandular system, 181
  - description of, 374
  - facial and bodily signs of, 373
  - faculty of, 373
  - mental uses of, 377
  - what an excess or deficiency of, indicates, 373
- Modesty, blushing not a sign of, 449
  - definition of, 445
  - dependent upon the nerves of the skin, 190
  - description of, 190, 445
  - facial and bodily signs, 445
  - faculty of, 445
  - in animals, 449
  - what an excess or deficiency of, indicates, 445
- Morality and organic perfection, connection between, 138
  - dependent upon a healthy organism, 156–159
- Morality and organic perfection, mode of discerning the grade of sexual, 308
  - observations concerning, 365
  - sexual training in, 359
- Motion, 283, 757
  - centre of the primitive system of functions, 273
  - the basis of Form, 27
  - the, of walking, etc., reveal the mind of the individual, 757
- Mouth, 837
  - centre of the primitive system of functions, 273
  - the, an indicator of the quality of a person, 852
  - the artistic, 840
  - the common-sense, 843
  - the conversational, 840
  - the criminal, 846
  - the destructive or carnivorous, 846
  - the economical, 844
  - the graminivorous, 839
  - the line of closure, 837
  - the meditative, 842
  - the oratorical, 841
  - the orderly, 844
  - the singing, 839
- Movements, 762
  - dependent upon the differences in the form of the internal organs, 763
  - the mouth presents an infinity of, 762
- Muscles, combinations of, 76
  - two general divisions of the, 75
- Muscular and brain systems, faculties derived from the, 200
  - and osseous system (see Osseous and muscular system)
  - system, 75
    - Calculation dependent upon the, 213–216
    - Credenciveness derived from the, 196
    - diseases which assail the, 81
    - faculties that depend upon the, 89, 195
    - Language dependent upon the, 220
    - Locality dependent upon the, 206
    - Magnetism a part of the, 89
    - mechanical and artistic principles in the action of the, 79, 547
    - Memory of Events dependent upon the, 201
    - Music dependent upon the, 216
    - or motive system, facial signs for the, 383
    - Self-will derived from the, 195
    - signs for the, 75
    - weight dependent upon the, 204
- Music, analysis of, 217
  - definition of, 665
  - derived from the muscular system, 216
  - description of, 667
  - facial and bodily signs, 666

Music, in animals, 668
  in combination with other faculties, 677
  musical forms of, description of, 218
  physiological basis of, 671
  what an excess or deficiency of, indicates, 665
Musical composer, the systems and faculties requisite for a, 1136

Nails, color of the, 1083
  differences of form, size, color, and quality in the, 1082
  the texture of the, disclose character, 1082
Nature, finest products of, relatively small, 110
  the human face the index of all, 15
Neck, 1057
  the aged, 1066
  the amative, 1060
  the attentive, 1061
  the avaricious, 1066
  the gluttonous, 1066
  the graceful, 1063
  the, is one very great aid toward the comprehension of character, 1057
  the language of coquetry in the, 1065
  the language of hypocrisy in the, 1066
  the language of Veneration, 1066
  the, of Self-esteem, 1061
  the sagacious, 1063
  the willful, 1059
  the youthful, 1066
  wrinkles of the, 1042
Nerve and brain system (see Brain and nerve system)
Nerves of the digestive apparatus, mental power of the, 166
  of the skin, faculties derived from, 190
  modesty dependent upon, 190
Nervous and osseous systems (see Osseous and nervous systems)
  system, facial signs for the, 283
Nose, the, 405, 866
  abnormal type of the, 933
  acts as a sentry, 479
  an exponent of character, 289, 294
  an indicator of both lungs and heart, 1094
  an indicator of power, 110
  argumentative type of the, 922
  artistic type of the, 910
  athletic type of the, 918
  commercial type of the, 923
  constructive type of the, 917
  convex class of the, osseous system dominant, positive character, 919
  critic's type of the, 913
  crooked or convex, 121
  dishonest type of the, 928
  dramatic type of the, 915
  embryotic type of the, 894
  idiotic type of the, 896
  indicates the condition of the stomach, 193
Nose, indicative of the condition of the internal organs, 273
  infantoid type of the, 895
  literary type of the, 912
  lower division of the, mental signs, artistic and literary, 880
  mechanical type of the, 932
  melancholy type of the, 927
  poetic type of the, 910
  philosophic type of the, 913
  pug type of the, 898
  retroussèe type of the, 899
  scientific type of the, 930
  singing type of the, 901
  snub type of the, 897
  straight class of the (passive character), 903
  subdivision of the, 878
  the anatomical formation of the, 877
  the concave, or immature, of the adult, negative character of the, 892
  the evolution of the, 866
  the physiology of the, 872
  the three basilar forms of the, 891
  upper division of the, mental sign, executive, 887
  wrinkles on the, 1038
Nostrils, the three general outlines of the, 891
Number, basis of Form, 35
  science of, related to logic or reason, 46

Observation, analyzing the grade or quality of, 622
  cultivation of, 624
  definition of, 617
  dependent upon the osseous and nervous systems, 199
  description of, 618
  facial and bodily signs, 618
  faculty of, 620
  in the animal kingdom, 623
  what an excess or deficiency of, indicates, 618
Obstinacy, analysis of, 269
Olfactory ganglion, analysis of the, and glandular system, 191
Opera-singer, the systems and faculties necessary for an, 1133
Orators, the electric class of, 1146
  the magnetic class of, 1148
  the systems and faculties essential to, 1146
Order, closely connected with Time, 690
  definition of, 695
  description of, 696
  facial and bodily signs, 696
  in animals, 703
  in combination with other faculties, 705
  mental, dependent upon the brain and nervous system, 209
    derived from the brain and osseous system, 695

Order, physical, 209
  derived from the muscular and thoracic systems, 695
  squareness of the osseous system an indication of, 697
  system is, 698
  what an excess or deficiency of, indicates, 695
Organ systems, the five, which create form and character, 59-61
Organic perfection, connection between morality and, 138
Organism, Mind inheres in the entire, 62
Organized bodies, the structure of, 62
Organs and functions from which mental faculties derive their powers, 236
Osseous, or bony system, 83
  and muscular system, Executiveness derived from the, 194
    faculties derived from the, 194
  and nervous system, faculties derived from the, 199
    Observation dependent upon the, 199
  facial signs for the, 284
  faculties derived from the, 192
  Veneration dependent upon the, 192

Painter, the systems and faculties essential for a, 1121
Patriotism, definition of, 329
  derived from the glandular system, 176
  description of, 330
  facial and bodily signs, 330
  faculty of, 329
  in connection with other faculties, 323
  what an excess or deficiency of, indicates, 329
People, young, selecting trades for, 91
Perversion, the law of scalenism, or, 50
Philanthropist, the systems and faculties required by a, 1171
Philologist, systems and faculties necessary to a, 1173
Phrenologists are physiognomists to a large degree, 115
Physical functions, rationale of, and mental faculties and their signs in the face, 149
Physician, facial signs of a good, 435
  the systems and faculties required by a, 1141
Physiognomical sensation common to people, 300
Player, the systems and faculties essential to a, 1127
Poet, the systems and faculties essential to a, 1124
Printer, the combination of systems and faculties required for a, 1116
Professions, the combination of faculties for, 1111
Physiognomists, phrenologists are, to a large degree, 115
Physiognomy, ancient methods of studying, 8
  basic principles of scientific, 7
  definition of, 7
  established laws of, 146
  how the discoveries in scientific, were made, 13
  practical, 273
  relation between, and metaphysical theories, 8
  restored to former rank by Lavater, 11
  sub-basic principles of, 101
  teaches us to live in accord with hygienic law, 488
  theory of practical and scientific, 11
  what a study of, reveals, 11, 136, 157
Physiological organs and functions, facial signs of the, 276
Pneumativeness, definition of, 397
  description of, 398
  facial and bodily signs, 398
  faculty of, 397
  how to remedy defective, 408
  what an excess or deficiency of, indicates, 397
Precocious children, 139
Prescience, definition of, 588
  description of, 589
  facial and bodily signs, 588
  faculty of, 588
  in animals, 595
  what an excess or deficiency of, indicates, 588
Principles, basic, of scientific physiognomy, 7
Proportion, law of, or harmonious development, 131, 132

Quality, 112
  the eye an exponent of, 113
  the finger-nails an indicator of, 117
  the skin an indicator of, 113

Rationale of physical functions and mental faculties, and their signs in the face, 149
Reason, dependent upon the brain system, 227
Reasoning, logical, should be taught to children, 232
Regeneration of the race, right way of, 240
Reproduction, scientific, among human beings, 55
Reproductive system, 278
  Amativeness dependent upon the, 177
  faculties derived from the, 177
  Love of Young dependent upon the, 179
Resistance, definition of, 463
  description of, 463
  facial and bodily signs of, 463
  faculty of, 463
  in animals, 467
  what an excess or deficiency of, indicates, 463
Revenge, analysis of, 247

Sanativeness, a primitive function, 429
 definition of, 427
 description of, 428
 facial and bodily signs, 427–435
 faculty of, 427
 in animals, 434
 what a deficiency of, leads to, 427
Scalenism or perversion, law of, 50
Scent, acuteness of, dependent upon large lungs, 414
Science, mental, our knowledge of the history of, 8
Scientific physiognomy, basic principles of, 7
  how the discoveries in, were made, 13
  theory of practical and, 11
 reproduction among human beings, 55
Scientist, the systems and faculties necessary to a, 1162
Scorn and contempt, analysis of, 265
Sculptor, the systems and faculties essential to a, 1139
Secretiveness, analysis of, 249, 263, 437
 definition of, 469
 description of, 470
 facial and bodily signs, 469
 faculty of, 469
 in animals, 470
 what an excess or deficiency of, indicates, 469–472
Self-conceit, analysis of, 263
Self-esteem, analysis of, 437
 definition of, 436
 description of, 437
 facial and bodily signs, 436
 faculty of, 436
 in animals, 440
 in children, 441
 in combination with other faculties, 442
 in creative artists, 444
 what an excess or deficiency of, indicates, 135, 436
Self-will, difference between, and Firmness, 575
 definition of, 569
 derived from the muscular system, 195
 description of, 570
 facial and bodily signs, 571
 faculty of, 569
 how to cultivate, 577
 what an excess or deficiency of, indicates, 569
Selfishness, analysis of, 259
 effect of, on the system, 261
Sensation not limited to the action of the special senses, 12
Sensitive, nervous, children, 140
Shyness, 484
Size, 609
 definition of, 609
 dependent upon the osseous system, 612
 description of, 610
Size, facial and bodily signs, 609
 faculty of, 613
 how to reduce the, of the body, 1109
 in combination with other faculties, 615
 of the head, 103
 what an excess or deficiency of, indicates, 609
Skin, texture of, significant of mental quality, 96, 113
Smiles, different kinds of, 1054
 the physiognomy of, 1054
Society belle, the systems and faculties essential to a, 1133
Speculator, the systems and faculties required for a, 1120
Statesman, the systems and faculties required by a, 1181
Stimulants, the use of, 1102
Stomach, condition of the, indicated by the nose, 193
 facial signs for the, 282
Strength, deficiency of Color indicates a lack of, 128
Structure of organized bodies, 62
Sub-basic principles of physiognomy, 101
Sublimity, definition of, 507
 description of, 507
 facial and bodily signs, 507
 faculty of, 506
 in combination with other faculties, 512
 very strong in Hebrews, 510
 what an excess or deficiency of, indicates, 506
Surgeon, facial signs of a good, 435
Surgeons, 1143
 the systems and faculties required for, 1143
Suspicion, theory of, 252
Systems, faculty derived from the five superior, 210
 Time dependent upon the, 210

Tea and coffee, injurious effects of, 345
Teeth, 1045
 animal type of the, 1050
 breadth of the circle of the, 1048
 curving of the, 1048
 form and size of the, 1048
 narrowness of the circle of the, when extreme, 1048
 physiognomical significance of the, 1045
 the form, size, color, texture, and relative position of the, present distinct meanings, 1045
Temper, analysis of, 255
 effect of, upon the body, 257
Texture of the skin significant of mental quality, 96
Theories of the mode of action of certain traits, 239
 metaphysical, relation between, and physiognomy, 8

Theory of practical and scientific physiognomy, 11
Thoracic system, description of the, 71
  diseases which assail the, 73
  faculties dependent upon the, 72
  peculiarities of people in which the, is dominant, 72
  signs for the, 72
Thorough-bred persons, 1108
  facial indications of those who are not, 1109
  the conventional marks of, 1108
  the indications of, 1108
Time, closely connected with Order, 696
  comprised in the five systems of functions, 681
  definition of, 681
  derived from the five superior systems, 210
  description of, 683
  different kinds of, 210
  facial and bodily signs, 682
  in animals, 694
  motion the prime factor of, 688
  the faculty of Color has considerable effect upon, 693
  the principle of, adapted to eternity, 691
  what an excess or deficiency of, indicates, 681
Tobacco, its effects upon memory, 1101
Tongue, 1052
  the, reveals the internal state and condition of the digestive tract, 1053
Touch, 287
Trades, the combinations of faculties for, 1111
  selecting, for young people, 91
Tragedian, the faculties necessary to a, 1129
Truthfulness, facial signs for, 304

Vegetative division, signs for the organ systems within the, 70
  kingdom, Form in the, 123
  state, description of the, 68
  system, 67
    Conscientiousness located in the, 71
    diseases incident to the, 69
    functions in the, 21
    how to reduce the, 69
    productive of certain faculties, 21
Veneration, definition of, 553
  derived from the osseous and muscular systems, 124
  description of, 553
  facial and bodily signs, 553
  faculty of, 553
  its connection with the stomach, 192
  the language of, 1066
  uses of, 558
  what an excess or deficiency of, indicates, 553
Ventilation of buildings, 74
Visceral organs, facial signs for the, 277
  how the facial features are shaped by the, 281
Vision, 283
Vocations, choice of the, 1111
Voice, 825
  a large degree of Force gives clearness to the, 461
  a proper pitch of the, should be cultivated in children, 836
  elements, features, and factors concerned in the, 825
  intensity of motion is best expressed by the, 825
  knowledge of human character derived from the, 825
  significant in disclosing character, 299
  the construction and evolution of language taken in connection with evolution of the, 831
  the, related to the ear, 825
  the, reveals the dominant system or systems of the organism, 826

Water, the human organization composed principally of, 341
Weight, definition of, 643
  dependent upon the muscular system, 204, 643
  description of, 644
  facial and bodily signs, 643
  in animals, 650
  what an excess or deficiency of, indicates, 643
Will, analysis of, 255
  effect of, upon the system, 257
Woman, as intellectual as man, 298
  signs of beauty in the, 1092
Wrinkles, 1034
  the amative, 1038
  the approbative, 1037
  the, at the outer corners of the eyes, 1040
  the conscientious, 1039
  the executive, 1039
  the general, 1042
  the malicious or knavish, 1039
  the mirthful, 1037
  the miserly, 1037
  the observing, 1040
  the, of the neck, 1042
  the, on the forehead, 1041
  the persevering, 1039
  the talker's, 1036
  the, under the eyes, 1040
Writer of fiction, the systems and faculties required by a, 1177

Young, Love of, faculty of, 367
  analysis of, 179
  definition of, 367
  description of, 368
  facial and bodily signs, 367
  what an excess or deficiency of, indicates, 367

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